THE

JOURNAL OF GAS LIGHTING.

PUBLISHED MONTHLY.

No. 74, Vol. IV.] LONDON, MARCH 10, 1855. [Price 1s., In America 30 Cents.

TO GAS COMPANIES.

BOGHEAD CANNEL COAL.—This is the most highly bituminous coal known, and, therefore, peculiarly adapted for mixing with inferior coals in the Manufacture of Gas, for which purpose it is exclusively used. One ton of it yields 13,500 cubic feet of gas, of the specific gravity of '775; and a burner consuming at the rate of 1 cubic foot per hour, gives a light equal to 8¼ spermaceti candles, each consuming 120 grains of sperm per hour. The light yielded by one ton of this coal is equal to that from 1990 lbs. of sperm candles; whereas that from the same quantity of Newcastle Caking Coal is only equal to 420 lbs.; and that from the best Wigan Cannel Coal is only 750 lbs. of sperm candles. It can be shipped at any of the ports in the Frith of Forth or the Clyde.

For terms and other particulars apply to

R. W. Kennard and Co.,
Sole Agents,
67, Upper Thames-street, London

GAS ENGINEER.

WANTED, by a Metropolitan Gas Company, a SUPERINTENDENT ENGINEER, of great energy, ability, and experience in the most modern and approved mode of Gas Making. He must be competent to supply Plans and Estimates for the construction of Buildings and every description of Apparatus connected with Gas-works, and superintend the erection of the same. The Salary to commence will not be less than £300 per annum, and may be higher if a very eligible candidate offers. Experience in the use of Clay Retorts indispensable.

Applications enclosing copies of Testimonials, stating age, particulars of former engagements, and Salary expected, to be addressed to "Gas Engineer," Mr. Thomas and Co.'s Advertising Offices, 19 and 21, Catherine-street, Strand, before the 19th inst.

TO TAR DISTILLERS.

WANTED, 500 Tons of Coal Pitch, in bulk.—Apply by letter, stating price, &c., to Messrs. Hoile and Barnes, Chemical Works, Bow-common.

FOR SALE AT HALF-PRICE.

A quantity of Dry Meters, Manufactured by W. Sugg, Marsham-street, Westminster.—Applications to be made by letter only, addressed S. M., Office of this Journal, 3, Parliament-street, Westminster.

£20 REWARD.

WHEREAS some evil-disposed Person or Persons, did, on the night of the 14th instant, on the premises of the Commercial Gas Company, OPEN A BY-PASS VALVE, whereby the Gasholders were filled with impure gas: AND WHEREAS such an act could only have been prompted by the most malicious motives, the BOARD of DIRECTORS of the Company have resolved upon offering the above Reward to any one giving such Information as may lead to the Apprehension and Conviction of the Offender or Offenders.

By order of the Board,
Feb. 17, 1855. George Jaques, Secretary.

COWEN'S PATENT FIRE CLAY RETORTS.

JOS. COWEN and CO.,

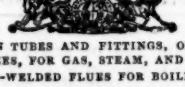
BLAYDON BURN, NEAR NEWCASTLE-ON-TYNE,

Were the only parties to whom a Prize Medal was awarded at the Great Exhibition of 1851, for "Gas Retorts and other Objects in Fire Clay."

J. C. and Co. have been for many years the most extensive Manufacturers of Fire Clay Retorts in the United Kingdom; and orders for Fire Clay Retorts of all shapes and dimensions, Fire Bricks, and every other article in Fire Clay, are promptly executed at their works as above.

Also, owners of Blaydon Burn Colliery, from which "Cowen's Cannel Coal," extensively used in Metropolitan and other Gas Works, and "Cowen's Garesfield Coal," are obtained. From the latter, "Cowen's Garesfield Coke" is made, the superior quality of which is well known.

Coal and Coke Office, Quay-side, Newcastle-on-Tyne.



PATENT IRON TUBES AND FITTINGS, OF ALL KINDS AND SIZES, FOR GAS, STEAM, AND WATER.

LAP-WELDED FLUES FOR BOILERS.

GALVANIZED TUBES, SHEET-IRON, &c.

JOHN RUSSELL AND CO.,

CHURCH-HILL, WEDNESBURY,

Tubing Manufacturers from the Commencement of Lighting by Gas, and previously Contractors with the Government and East India Company for Gun Barrels, which were also first supplied by them to Gas Companies, and used for the distribution of gas.

LONDON ESTABLISHMENT,
69, UPPER THAMES-STREET.

N.B. Every Tube is proved by Hydraulic Pressure before leaving the Works.

12,950 CUBIC FEET OF GAS,

Specific Gravity '820, produced from a ton of BATHVILLE CANNEL COAL, a Coal identical with that named Bathgate, Boghead and Torbane Mineral.

JAMES LAWRIE and CO.

COUSIN LANE, UPPER THAMES STREET,
SOLE AGENTS.

Messrs. Lawrie and Co. are also Sole Agents for the excellent KNIGHTSWOOD CANNEL, used by London Companies, and are Makers of RETORTS, Clay and Iron; SOCKET PIPES; and all kinds of CASTINGS.

CANNEL COAL.

RAMSAY'S NEWCASTLE CANNEL was discovered by the Advertiser in 18 8. Cannel Coal was then little used in London: after surmounting much opposition, it has become the principal Cannel Coal used in the Metropolis, and has greatly assisted in improving the London gas. Its joint products of gas of high illuminating power, and coke of good quality, make it one of the most economical coals known. It is used by all the London Gas Companies, as well as by many Provincial and Foreign. The Crystal Palace was lighted from it in 1851, and the Post-office, Bank, and *Times* Office, are at present.

FIRE-CLAY RETORTS.

FIRE-BRICKS of all descriptions. Manufactory established in 1804.

RAMSAY'S GARESFIELD COAL and COKE.

Bone and Artificial Manures of all kinds.

Address G. H. Ramsay, Offices, Broad-chase, Newcastle-on-Tyne.

April 27, 1854.

WALTER MABON,

ENGINEER.

Ardwick Iron Works, Fairfield-street,
MANCHESTER,
Manufacturer of

IRON TANKS for Gasholders, Railway Stations, &c.

GASHOLDERS.—Extensive premises at Gorton, solely for the manufacture of Gasholders, and other heavy Wrought Iron Structures.

GAS APPARATUS.—W. M. has an extensive assortment of patterns for Purifiers from 4 feet to 15 feet square, also round ones from 4 feet to 10 feet diameter; Scrubbers, Condensers, Washers, Columns, Girders, and Tripod Patterns, suitable for Gasholders, from 10 feet to 150 feet diameter, either Singlelift or Telescope. Contractor for Gas Works of any magnitude. Designs, Specifications, and Estimates furnished.

WROUGHT and CAST IRON ROOFS for Railway Stations, Gas Works, Warehouses, and Sheds, prepared for Slates or for Corrugated Iron.

IRON HOUSES, either for Dwellings, Manufactories, or Public Buildings.

PIPES and VALVES, for Gas and Water, from 2 inches to 48 inches bore.

TO IRONFOUNDERS AND GASHOLDER MAKERS.

PONTYPRIDD Gas Light and Coke COMPANY.—The Directors of this company are prepared to receive tenders for a CAST IRON TANK, 62 feet in diameter by 16 feet deep, with Columns, Girders, &c.; also for a GASHOLDER, to work in the same; the whole to be erected and fixed complete at the Company's works, Pontypridd, Glamorganshire.

Plans and specifications, with conditions, may be seen, and forms of tenders obtained after the 17th inst., upon application to Mr. Henry Bowen, engineer, Gas Works, Cardiff.

Sealed tenders addressed to the chairman of the Directors to be forwarded under cover to Montague Grover, Esq., solicitor, Cardiff, on or before the 10th day of March next, endorsed "Tender for Tank" or "Gasholder," as the case may be.

The Directors do not bind themselves to accept the lowest or any tender.

Cardiff, March 8, 1855.

JAMES RUSSELL AND SONS,

WEDNESBURY, STAFFORDSHIRE, and 81, UPPER GROUND STREET, BLACKFRIARS, LONDON.

PATENTEES, INVENTORS, AND FIRST MAKERS OF

WROUGHT-IRON GAS TUBING,

commencing from the *earliest* introduction of Gas Lighting into this country.

Manufacturers of every size and description of Wrought-iron Tubes and Fittings, from one-eighth up to seven-inch internal diameter, for Gas, Steam, or Water.

PATENTEES AND MANUFACTURERS OF THE

LAP-WELDED FLUES,

for Marine, Locomotive, and Stationary Boilers.

Inventors and Manufacturers of

IMPROVED STEAM AND GAS COCKS,

in Iron or Gun Metal, from three-eighths to six-inch bore. Manufacturers of every description of hand-screwing

STOCKS, DIES, AND TAPS,

for Gasfitters and Engineering purposes.

Manufacturers of Coils, for hot water and other purposes; Casing of all sizes, with flush joints, for Well-sinkers; Blasting Tubes; Buffer Tubes for Railway Carriages; Tubes for Roller Beams; Spindles, Shafts, Pendulums, Hydraulic Presses, Core Bars, Steam Gauges, &c. &c.

James Russell and Sons beg to call the attention of Engineers, Builders, Water Companies, and others, to their

PATENT ENAMELLED TUBES,

which preserve water or other liquids conveyed by them in a perfectly limpid condition; whilst the Enamel itself is as pure as the finest Porcelain, possessing the rare recommendation of being entirely free from any noxious ingredient in its composition.

Lists, Estimates, &c. &c., forwarded on application; orders, from 10 to 100,000 feet of gas tube, executed at twelve hours' notice if required; and quality may be safely relied upon, as all goods are most carefully tested before leaving the Works.

James Russell and Sons have great pleasure in calling attention to the annexed award:—

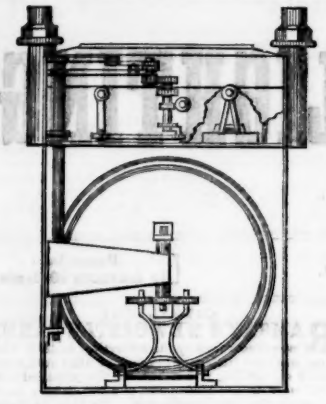
"EXHIBITION OF THE INDUSTRY OF ALL NATIONS, NEW YORK.

"Office: No. 6, Charing-cross, London, April 6, 1854.

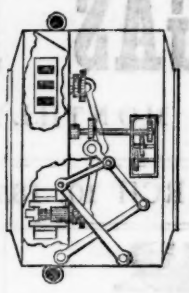
"Gentlemen,—I have much pleasure in informing you that the Jury has awarded to your firm 'Honourable mention for Lap-welded Iron Tubes.' You are at full liberty, if you deem it likely to promote your mercantile advantage, to affix to these articles, during the season 1854, a card whereon this Award is printed, and also your prices, with name of agent, &c.—I am, gentlemen, your obedient servant,

"Messrs. James Russell and Sons, Wednesbury, Staffordshire."

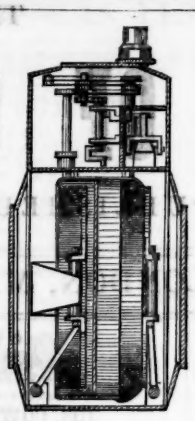
"John H. Bohn, Secretary.



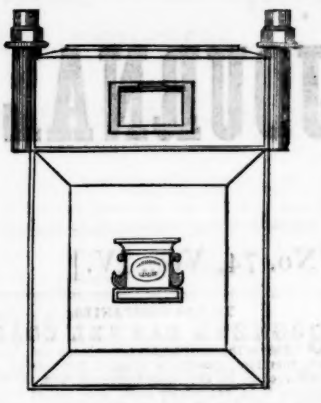
ELEVATION, with Front removed and Valve-box broken.



PLAN. Valve-box broken away to show Valves.



SECTIONAL ELEVATION.



FRONT VIEW.

W. J. WARNER'S PATENT DRY GAS METER.

THOMAS EDGE

begs to inform Gas Companies and Consumers that he has become the Proprietor of the above Patent; and that, having made arrangements for the Manufacture of the same on an extensive scale, he is prepared to supply all sizes in any quantities.

The advantages of this Meter have been recognised by the highest authorities, and those who have tested and used them.

The most obvious improvements are—

1. The movements of the Valve Cover at its base, so that no deposition on the face of the Valve can cause the Cover to tilt, and thus allow the Gas to pass without registering.
2. The protection of the whole of the Machinery in the upper chamber from the action of the Gas, which has never before been accomplished.
3. Greater simplicity, and a less amount of flexible material in the Diaphragms than in any other make.

These Meters, and also the Patent Lever Valve Wet Meters can have either the Common Index or Patent Indicator attached; and are manufactured, with Station Meters, Governors, Pressure Registers, Gauges, Gas Fittings, and every description of Gas Apparatus, at the Works, Great Peter-street, WESTMINSTER.

CITY OFFICE, and Depôt for Meters, Pipe Barrel, and Fittings, 9, WALBROOK, Mansion-house.

HORNCASTLE GAS WORKS.

WANTED, for the above Gas Works, a New or good Second-hand GASOMETER, about 30 feet in diameter, and 12 feet in depth.

Persons willing to tender, or having one for Sale, may address H. BOULTON, Post-office, HORNCASTLE.

At a Meeting called by the Private ENTERPRISE SOCIETY, and held at the Freemasons' Tavern on Monday, March 5, 1855, J. C. PEACHE, Esq., in the chair, it was unanimously resolved:—

1. That this Meeting views with dissatisfaction and alarm the endeavours of the Government, as manifested in the provisions of the Public Health Bill, 1855, to interfere in a manner alike injurious to public and private interests with the scope of, and the capital embarked in, numerous undertakings of great national importance.

2. That the amendments suggested in conference with the General Board of Health, although conciliatory, and to some extent useful, are, nevertheless, inadequate to the protection of Gas and Water Companies, and the owners of water privileges.

3. That Messrs. J. Simpson, A. Ashpitel, J. C. Peache, W. C. Frankish, H. Lloyd, be, and are hereby appointed a Committee, with power to add to their number, to represent and conduct the cases of the Gas and Water Companies, and the owners of water privileges, and to take all such steps as to them may appear necessary either in opposition to the measures, or for the purpose of obtaining such amendments and alterations therein as may be satisfactory; and that it is the opinion of this Meeting that numerous objects of the Public Health Bill, such as the control of the police, the manufacture of gas, the construction of works, the establishing of markets and fairs, and that the intended power to take land and streams without the investigation of Parliament are dangerous innovations, and would, in their exercise, be productive of the most injurious consequences to land owners, manufacturers, water companies, owners of water privileges, and others.

4. That the proposed authority to mortgage the property of the country to the extent of two years' assessable value, and to levy exorbitant compulsory rates for the payment of interest, and the other purposes of the bill, on all the occupiers of land, houses, and buildings, whether benefited or not, is essentially unjust in principle and unnecessary in practice, inasmuch as the works contemplated by the bill may in most cases be obtained by the unrestricted exercise of private enterprise, which, without settling any debt upon property, brings charges upon those only who voluntarily avail themselves of the advantages it is ready to afford, and for so long only as those advantages may be conferred and accepted.

5. That the clauses of the Nuisances Removal Bill relating to the abatement and prohibition of so-called nuisances, and to the penalties imposed in respect thereof, will prove destructive to many important branches of trade and manufacture, and that it be an instruction to the committee to procure such alterations therein as to them may appear needful.

6. That it is the opinion of this meeting that it is of great public importance that section 145 of the Public Health Act, 1848, should be re-enacted in the present bill.

7. That the foregoing resolutions be advertised in the morning journals.

8. That this meeting be adjourned to Friday next, at 2 o'clock, at the Freemasons' Tavern.

9. That the thanks of this meeting be given to J. C. Peache, Esq., for his able conduct in the chair.

By order, GEORGE R. BURNELL, Secretary.

14, Lincoln's-inn-fields.

TO GASHOLDER MAKERS, &c.

THE Committee of the Penrith Gas COMPANY will received Tenders for making and erecting a New GASHOLDER, 50 feet diameter, and 16 feet deep, with Governor, Valves, and Connections.

Plans and Specifications may be seen on application to Mr. MARK ABBOT, Secretary, after the 15th inst., who will also receive Sealed Tenders up to the 30th inst.

The Committee do not bind themselves to accept the lowest nor any Tender.

BETHESDA GAS WORKS.

TENDERS FOR BUILDING AND IRON WORKS.

THE Commissioners under the "Bethesda Improvement Act, 1854," are desirous of receiving Tenders by the 14th March, 1855 (such Tenders to stand good for six weeks from that date), for the following Works to be done, and materials to be delivered at Bethesda, near Bangor. Any party who would like to Contract for the whole is at liberty to Tender for the same according to Plans and Specifications, lying at the Douglas Arms Hotel, Bethesda.

The 1st Tender to comprise the Buildings, Tanks, and Excavations, complete.—The 2nd Tender, the heavy Castings and Cast-iron Pipes,—2, 3, and 5 inches.—The 3rd Tender, the Gas-holder, 35 feet diameter by 12 feet deep, erected at Bethesda.—The 4th Tender, supplying the remaining parts, fitting up the Gas Apparatus complete, laying and joining Main Pipes.

The Commissioners do not bind themselves to accept the lowest or any Tenders.

By Order,
H. WILLIAMS,
Clerk to the Bethesda Improvement Commissioners.
Glanadda, Bangor, March 1, 1855.

FOR SALE, a few lengths of 16-in. Hydraulic Mains; 20 4-in. Dip Pipes; 20 4-in. H Pipes; 14 Oval Mouthpieces, 14½ by 12½; 6 large Carriages for top of Gasholder; 12 7½-in. Valves; and several Dry Meters.—Apply at the SOUTH METROPOLITAN GAS WORKS, Old Kent Road, LONDON.

TO CONTRACTORS.

THE Directors of the Sunderland CORPORATION GAS COMPANY are prepared to receive TENDERS for the immediate Excavation and Building of a TANK (102 feet diameter,) near the Ayre's Quay Works of the Company, Wellington-lane.

Plans and Specifications may be seen at the Offices of the Company, 61, Fawcett-street, SUNDERLAND, on and after THURSDAY the 1st day of March instant.

Sealed Tenders, endorsed "Tender for Tank," to be sent in on or before TUESDAY the 13th of March, by Twelve o'clock at noon.

The Directors do not bind themselves to accept the lowest, or any Tender.

JOHN HENRY COX, Secretary.

Sunderland, Feb. 22, 1855.

WANTED, a Second-hand Gasholder and TANK, and a Second-hand STATION METER.

The GASHOLDER to be about 40 feet in diameter, and to be capable of holding about 20,000 cubic feet.

The STATION METER to be capable of passing 2000 cubic feet per hour.

Address all particulars to Mr. LEWIS BEAME, Secretary to the Newton Gas Company, NEWTON ABBOT, DEVONSHIRE.

WILLIAM PARKINSON & CO.

(Successors to the late Samuel Crosley),

COTTAGE-LANE, CITY-ROAD, LONDON,

Beg most respectfully to announce that, in addition to the continued manufacture of GAS METERS, they manufacture Meters for measuring Water, Spirits, &c. (commenced under Patent, in 1842, by the late Mr. William Parkinson).

N.B. These Meters are as simple and durable as the Gas Meter, and as correct as that instrument under the most careful manipulation.

NEW INSTRUMENTS for the USE OF GAS COMPANIES.

THOMPSON'S BROMINE TEST.

APPARATUS, INCLUDING GRADUATED TUBE AND EQUALISING CYLINDER, £1. 1s.

Bromine, 3s. per ounce.

AN APPARATUS FOR TESTING THE PRESENCE OF BISULPHURET OF CARBON IN GAS.

It has frequently been remarked by chemists that even when the acetate of lead test is applied to coal gas, and indicates perfect freedom from sulphuretted hydrogen, indications are still given during its combustion which would lead to the supposition that some other compound of sulphur exists in it. The above instrument affords positive proof that this is the case, and leaves little doubt that that compound is sulphuret of carbon. This test will detect the presence of sulphur in whatever form it may exist, and is much more delicate than the acetate of lead test, even for sulphuretted hydrogen.

Cost of apparatus, £2. 2s.

A REGISTERING PRESSURE GAUGE.

It is important to gas companies to know the pressure at various parts of their districts during the successive hours of the night, for the better regulation of their initial pressure at the Works. This compact apparatus, capable of being placed in a space of less than one foot cube, is intended to supply this information. Price £7. 10s.

Station Meters, Pressure Gauges, Photometers, Specific Gravity Apparatus, &c.

CONSUMERS' METERS

at the List price, with a liberal discount to wholesale purchasers.

ALEXANDER WRIGHT,
GAS ENGINEER,
55, MILLBANK-STREET, WESTMINSTER.

CALIFORNIA GAS COMPANY.

Capital £50,000 in 50,000 Shares of £1 each.

Payable by instalments.

Holders of GAS STOCK are informed that a company is now being formed for the purpose of lighting with gas the cities which have so recently sprung into existence in California.

The first undertaking by this company is the lighting of the principal city of the state, viz., Sacramento. The works will be so far advanced as to supply a portion of the city with gas on the 21st of March inst. A sufficient capital having already been subscribed in California for that purpose.

From the enormous price obtained for gas, viz., £4 per 1000 cubic feet, there is every prospect of the shareholders receiving a dividend of upwards of 30 per cent. per annum, after providing a reserve fund sufficient to redeem upwards of one half the capital in ten years.

Applications for Shares, Prospectuses, and the Directors' Report, to be made to Mr. J. GATLIFF, Secretary, at the temporary offices of the company, 1, ADELAIDE-PLACE, LONDON-BRIDGE.

London, March 8, 1855.

THE

JOURNAL OF GAS LIGHTING.

PUBLISHED MONTHLY.

No. 74, Vol. IV.] LONDON, MARCH 10, 1855. [Price 1s., In America 30 Cents.

CONTENTS.

	PAGE
Circular to Gas Companies	41
The Chartered Gas Company and the Croll Organ	42
Gas Question in France	43
Sir B. Hall's Sanitary Legislation	46
Resuscitation of Peat Gas	47
Communicated Articles:—	
Progress and Present Condition of the Two Gas-works at Newport, Isle of Wight	48
New Public Health Bill	48
Correspondence:—	
Gas at Whitehaven	49
Vagaries of Dry Meters	49
Register of New Patents:—	
Wilson and Payne's Improvements in Distilling Fatty and Oily Matters	49
Lees' Improvements in Machinery for Purifying Gas	50
Bickerton's Improved Gas-light Burner or Regulator	50
Jacquelain's Improvements in the Manufacture of Gas	50
Bérard's Improvements in the Manufacture of Gas, Coke, &c.	51
Smith and Phillip's Mode of Constructing and Connecting Pipes	51
Kirkham's Mode of Manufacturing and Purifying Gas	51
Provisional Protections	52
Notices of Intention to Proceed	52
Parliamentary Intelligence:—	
Public Health Bill	52
Phœnix, South Metropolitan, London, and Surrey Gas Companies' Bill	52
Legal Intelligence:—	
Insolvent Debtors' Court.—In the matter of Edward Errington	53
Miscellaneous News:—	
City of London Commission of Sewers	55
Dr. Letheby's Twelfth Report on the Gas supplied in the City of London	56
The Sheffield Gas Amalgamation	56
Meeting of the Phœnix Gas Company	57
A Dinner cooked on the Ice	59
Important to Toll-gate Keepers	59
Fraud by a Gas-fitter	60
Fatal Accident at the Equitable Gas Works	60
Break up of the Liverpool New Gas Company	60
Opposition to the Public Health Bill	60
Price Current	60

NOTICES.

Subscribers who have not paid their subscriptions for 1854 are requested to remit 12s. for the entire year, or 6s. for the half-year, by Post-Office Order, payable to Thomas G. Barlow, at the Charing-cross Money Order Office.

The subscription is 10s. per annum if paid in advance, or 12s. on credit, payable in two sums of 6s. each, due in June and December of each year. All subscriptions commence from the 10th of January in each year.

Communications and orders for Advertisements to be addressed to the Editor, No. 3, Parliament-street, Westminster.

The offices of the Editor are removed from No. 32, Bucklersbury, to No. 3, Parliament-street, Westminster.

Circular to Gas Companies.

The spirit of the manufacturing population of this country is now fairly aroused, and its sympathies are enlisted in opposition to the unconstitutional sanitary measures recently introduced by Sir Benjamin Hall, under pretext of protecting the public health, but practically creating an irresponsible power which would hold within its grasp the control of the whole manufacturing industry of the country, thus virtually placing those interests at the mercy of the sanitary quacks who have so signally failed in every experiment on the public health in localities which have submitted to their interference. This feeling has not at all been diminished by the fact that, of the fifteen members nominated to serve on the select committee to which the bills have been referred, there is not a single one who has had any experience in manufacturing operations, and only two or three who represent manufacturing constituencies. Landowners and lawyers constitute the large majority, and in their hands lies the fate of thousands of industrious operatives, whose labours have raised this nation to its proud station as a manufacturing country.

We, as interested in all that relates to a branch of industry which has been more especially obnoxious to the upstart school of sanitary reformers, and which, nevertheless, has not yet been proved to be in the slightest degree injurious to the health of those engaged in it (but rather, indeed, the reverse), have entered our protest against the granting of the extraordinary powers sought for, and we are gratified to find that it has been so cordially responded to. A large number of petitions against the measures have been already presented to Parliament, and it is urgent that this number should be added to with the least possible delay. At the suggestion of several correspondents, we annex two forms of petitions suited to ratepayers and to incorporated companies; and, as the report of the select committee may be expected in the course of next week, it is of importance that the hands of the opponents of the measures may be strengthened, so as to warrant an attempt to throw out the bills on the third reading, should the amendments made in committee fail in affording full security to manufacturers against the arbitrary and tyrannical exercise of the powers granted.

PUBLIC HEALTH BILL, 1855.

PETITITION AGAINST THE BILL.

"To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

"The Humble Petitition of the undersigned Inhabitant Ratepayers of the , inthe county of

"Sheweth,—That your petitioners are ratepayers of the town (district or place) of , in the county of , and in such capacity are personally and pecuniarily interested in the due and efficient execution of measures calculated to improve the sanitary condition of such town, &c.

"That there is now before your honourable House a bill entitled a 'Bill to alter and amend the Public Health Act, 1848.'

"That the said bill appears to your petitioners to be of a very objectionable and dangerous nature, for the reasons hereinafter mentioned, and in the opinion of your petitioners it will fail to advance the desired end of improving the sanitary condition of towns, or populous places, to which no allusion is even made in the preamble of the said bill.

"That your petitioners object to the mode in which the General Board of Health is proposed to be constituted; because the said board, consisting only of the President of the General Board of Health, Her Majesty's Principal Secretaries of State, for the time being, and the President and Vice-President of the Board of Trade, and the said president of the General Board of Health being enabled alone to exercise the powers of the whole board, it will in the opinion of your petitioners be found practically that the additional members of the board will have no influence or authority.

"That there is no guarantee in the bill as it now stands, that the Superintending Inspectors, to whom great powers are proposed to be given, should be competent to fulfil their duties; nor is there any provision by which such Superintending Inspectors should be prevented from again undertaking, for their own profit, the execution of works in the districts with which they may become officially connected.

"That the rules as to the adoption of the said Public Health Bill, 1855, by parts of places, and as to alteration of boundaries, appear to your petitioners to be objectionable on account of the conflicting authorities which may be established under them.

"That your petitioners believe that the protections provided in the said bill against the compulsory application thereof, will be found practically to be illusory and inoperative.

"That your petitioners believe that the powers proposed to be given to the local boards of health to deal with the sewerage, water supply, lighting streets, houses, lands, markets, fairs, and pleasure-grounds, will in many cases lead to serious and unjust interference with the rights of private property; and that by substituting the action of municipal bodies for that of individuals, or of private companies, the free exercise of the enterprise and capital of your petitioners and others will be materially interfered with.

"That although there may be many cases in which it may be necessary for the community to undertake the performance of certain duties, or the execution of certain works for the public convenience, yet your petitioners believe that, generally speaking, it is preferable that the collective body of the community should interfere as little as possible with the exercise of private enterprise, because the works so executed, or the duties so performed, by the community are always more costly and more unsatisfactory than would be the case if they were left to private individuals, and because it is almost impossible to induce a public body, such as a community, to alter or amend its system of proceeding should the progress of science, or the wants of the age, render it necessary to encounter fresh outlay.

"That your petitioners object strongly to the powers of entry, for the purposes of the said bill, it is proposed to confer thereby, because such powers of entry would effectually destroy the sacredness of every man's house, upon which they, as Englishmen, pride themselves.

"That the powers proposed to be conferred on local boards of health to mortgage the rates of their districts to the amount of two years of the assessable value of the premises assessable in the district, for the purpose of executing works under the direction of officers, from whom no guarantees of capacity or character are required, and under the virtual control of the General Board of Health, constituted in the very unsatisfactory manner before mentioned, is, in the opinion of your petitioners, fraught with serious danger to the community; because there is not the slightest guarantee that the money so to be raised shall be properly expended; and even if the money were well employed, the additional burthen which would thus be entailed upon your petitioners, would amount practically, as they are advised, to at least one-fourth of the total amount of their assessed rental.

"That your Petitioners are informed, and believe, that the effect of the provisions for apportioning the private expenses to be incurred under the powers of this bill, will be to upset nearly all the leases of house property as they at present stand; because it is usual to consider in such leases the municipal and parochial charges, whereas the said bill provides that not less than three-fourths of the private expenses shall be charged upon the landlord, or owner, when, from the length of the lease he may have no beneficial interest therein, when he has already considered the eventual burthens in the terms of his lease, and when he may never be consulted as to the necessity, or advisability, of the outlay.

"That your petitioners object to the powers proposed to be given to local boards to take lands merely by three weeks' notice to the Court of Quarter Sessions.

"Your petitioners, therefore, humbly pray your honourable House that the said Public Health Bill may not pass into law in its present form, but that your honourable House will make such amendments or alterations therein as your honourable House may, in your wisdom, judge to be necessary or expedient.

"And your petitioners will ever pray, &c."

PUBLIC HEALTH BILL, 1855.

PETITION AGAINST THE BILL.

"To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

"The humble petition of the Gas-light and Coke Company under their common seal,

"Sheweth,—That a bill is now pending in your honourable House, entitled, 'An Act to alter and amend the Public Health Act, 1848.'

"That your petitioners were incorporated under an act of the legislature bearing date , and under the sanction of that act of incorporation have expended large sums of money in establishing and improving works for the supply of gas to the town and neighbourhood of .

"That your petitioners have reason to believe that they have discharged the duties they undertook, when such charter of incorporation was granted to them, to the satisfaction of the public, and that the transfer of the powers so granted to your petitioners to any municipal body would not be desirable;

"That, nevertheless, the clauses of the said Public Health Bill, 1855, with respect to lighting, propose to confer upon local boards of health, to be created under its provisions, a power to submit to arbitration the terms upon which your petitioners, or any companies similarly circumstanced, should contract for the lighting of streets, and if the arbitrator so named should give an adverse decision with respect to the reasonableness of your petitioners' demands, the said local boards of health would virtually be entitled to take, merely by the consent of the Court of Quarter Sessions, after a three weeks' notice, lands for the purpose of erecting new gas-works, by means of which they could establish a ruinous competition with your petitioners, who have, as aforesaid, invested their capital entirely on the faith of the protection of the legislature to an undertaking deliberately sanctioned by itself.

"That your petitioners believe that even were it shown to be in some cases advisable to revise in such a compulsory manner as is contemplated by the bill, the scale of rates or charges which any gas-light company may have been authorised to levy by the express act of the legislature under which it is consituted: that there is no necessity for the extraordinary powers proposed to be conferred upon the local board of health, to be established under the provisions of the said Public Health Bill, 1855, because the Act 12 Vict. cap. 15, provides for the limitation of the profits of undertakings for the supply of gas, which would at all times act as an efficient check upon exhorbitant charges, even should such charges not have been limited by the Acts of Incorporation.

"That the provisions of the Public Health Bill, 1855, with respect to the conditions under which the works of gas-light companies shall be conducted are totally unnecessary, because the above-cited Act 12 Vict., cap. 15, clearly defines the conditions under which public undertakings of this description shall be conducted.

"That the powers proposed to be conferred on local boards of health to raise money by a public rate on the property of a district, to be used, perhaps, for the purpose of establishing an opposition to parties who have hitherto faithfully performed their engagements with the public, is inconsistent with the principles of sound political economy, or even of common justice.

"That the universal results of the transfer to municipal bodies of the undertakings hitherto so efficiently performed by public companies in our own country, have been unsatisfactory and disastrous in the extreme; and that, therefore, neither the interest of the public nor the ends of justice would be advanced by the practical destruction of your petitioners' property, which might be effected by the application of the powers proposed to be conferred by the Public Health Bill, 1855.

"Your petitioners, therefore, humbly pray your honourable House that the said bill may not pass into a law as it now stands; and that your petitioners may be heard by their counsel, agents, witnesses, or by themselves, before the committee of your honourable House, to whom the said bill is referred, against the preamble of the said bill, and such of the clauses and provisions thereof as may affect the rights, property, and interests of your petitioners.

"And your petioners will ever pray, &c." (Seal.)

The bill for districting the Surrey companies was read a second time in the House of Commons on the 2nd inst., after a feeble attempt at rejection on the part of the local members. It is understood that clauses to protect the public will be inserted in committee, and that no further opposition will be offered to its progress. The second reading of the bill of the City of London Gas Company has been deferred till the 17th of April, to give time for testing the efficiency of the new purifying apparatus, and its effect in diminishing the exhalations arising from the refuse products. The bill of the Halifax Gas Company is to be severely contested by the town council and by the consumers; and the bill for amalgamating the Sheffield companies will give rise to a discussion as to whether dividend on the new shares granted to the Consumers' Company should not be limited to 7½ per cent., instead of 10 per cent., allowed by the general act. The other gas bills of the session are likely to pass without serious opposition.

THE CHARTERED GAS COMPANY AND THE CROLL ORGAN.

It is to be hoped that a stop has at length been put to the long series of slanderous attacks, dating as far back as the one candle gas story of 1849, to which the Chartered Gas Company has been exposed, on the part of Mr. Croll and of those acting on his behalf or in his interest. The indifference with which these attacks have been regarded appears to have been construed into an immunity from the consequences which, in ordinary cases follow the indulgence in reckless falsehood and habitual slander; and as public companies generally are less sensitive than individuals to imputations upon their honesty, they are often assailed upon the principle, that if a sufficient quantity of filth is thrown at them, some of it is sure to stick. Upon no other principle is it possible to account for the following unfounded and scandalous paragraph extracted from the last number of the Imperially patronised organ of the Croll party.

"The reports of Dr. Letheby on the quality of the Central gas have lost a large portion of their interest. This arises entirely from their uniformity of approval, and the undeniable effect which inspection and publication has had upon the public mind. The doctor, however, as a public servant, seems to consider himself justified in making comparisons, and hesitates not to risk his reputation upon a repetition of certain avowals of experiments which were levelled almost exclusively at the Chartered manufacture. He boldly asserts—

"'In several cases the alkali is overworked, and gas is sent out to the public more or less charged with sulphuretted hydrogen. This is notoriously the case in one quarter of the metropolis, where the gas is so foul that it blackens lead paper immediately. In fact, wherever it escapes it discolours the paint with which it comes in contact, and it tarnishes the surface of polished metals, besides which the odour from it is so offensive, that it produces serious disturbance in the health of those who have the misfortune to inhale it. Nor is this all; its corrosive power is so great that it rapidly destroys the metal fittings, and subjects the public to enormous inconvenience. I believe from the extraordinary amount of impurity contained in the gas to which I am alluding, that it has not been purified at all, but that for many months past the public have been receiving it in a raw state.'

"There is scarcely an inhabitant in Westminster who undergoes the misfortune of consuming the Chartered gas but could indorse these accusations. That this state of matters involves an evil of surpassing magnitude is not to be gainsayed; but, in so far as shareholders are concerned, it is positively of no account in comparison with the great question of economical manufacture. Purity is not opposed to economy. They go together. The purest gases cost the manufacturers less than the foul. The balance-sheet is deprived of certain items of income simply because articles for sale are not separated, but conveyed away with the gas to deteriorate it, and render it obnoxious to the consumer. Remedies are abundant; applications are easy; but managers are stiff-necked, stubborn, slow to learn, impossible to convince. This is the whole secret; and, unless proprietors enforce a remedy, they must be content with diminishing profits as well as an obnoxious reputation."

There is a point beyond which the forbearance of even public companies cannot be taxed, and that point the directors of the Chatered Gas Company thought had been attained. From the Palace of the Sovereign and the Houses of Parliament to the humble abode of the tradesman, this company has, ever since the early dawn of the invention (now nearly half a century ago), supplied gas of unequalled purity. It has availed itself of the first talent of the country, and in the person of Mr. Lowe, its engineer in chief, and of Mr. F. J. Evans, the superintendent of its Westminster station, it possesses officers second to none, if equalled by any, of their professional brethren. Officers as well as directors indignantly denied the imputation upon their skill and honesty, and demanded the most rigorous investigation. The matter was consequently at once placed in the hands of the company's solicitor, and an apology has been offered in the terms stated in the following official letter, which has been addressed to us by the secretary of the company:—

TO THE EDITOR OF THE "JOURNAL OF GAS LIGHTING."

"Chartered Gas Company, Horseferry-road, Westminster, 9th March, 1855."

"Sir,—A statement having been made in the *Gas and Water Times* of the present month, calculated to injure this company, an application was instantly made to the editor on the subject, who has authorized the publication of the following retraction.

"I remain, Sir, yours obediently, "C. Burls, Secretary."

"We sincerely regret to have committed a serious mistake last month, in the few observations which we ventured to make upon Dr. Letheby's report. Our remarks are unfortunately made to apply to the Chartered in place of another company, the gas manufactured by which has been repeatedly condemned by the distinguished analyst. Our criticism having had no other motive than the public good, it is to us a subject of sincere regret that we should have unconsciously done private wrong by this error. It would have been better, perhaps, that we had imitated the caution of Dr. Letheby, and not have named the particular company; but, having erroneously, and without due consideration, mentioned the name of the Chartered, accompanied by assertions which, as regards this company, are unfounded, we readily, and without reservation or compunction, acknowledge our mistake, and trust that this avowal may be even more widely circulated than the error that has rendered its correction necessary.

"We have been assured, by competent authority, that the purity of the Chartered gas is unquestionable."

The Chartered Company, having no other object in view than the vindication of their character as traders, have accepted this apology, and it will consequently appear at the head of "Notes of the Month," in the next number of the *Gas and Water Times*, and with it will, we trust, close the series of attacks that publication has from time to time directed against all who doubted whether Mr. Croll was the *beau-ideal* of an engineering genius, or whether Mr. Dakin at all times adhered rigorously to the truth.

THE GAS QUESTION IN FRANCE.

The results of experiment and of practice often present striking contrasts. They bear a similar relation to each other that theory does to fact; and as the most cleverly devised theories are frequently contradicted by facts, so the most carefully conducted experiments are sometimes proved delusive when they are brought to the test of practical application. The chemist in his laboratory may ascertain with strict accuracy the quantity of steam that can be generated by the combustion of a pound of coal, he can determine the amount of pressure which the condensation of that volume of steam will produce, and he may, perhaps, proceed to infer from those data that the economical value of a pound of coal burned in the furnace of a steam engine is equal to an estimated amount of horse power. But if he were to attempt to carry the experiment into practice, he would be made painfully conscious of a very different result. He would find, in the first place, that he would not evaporate so much water by a pound of coal, nor condense it so perfectly, as in his laboratory experiment; and he could further find that the friction of the different parts of the engine exhausted more than half of the estimated power. It would be in vain to appeal to the experiment as proof of the capabilities of the coal, and as evidence of the imperfection of the machinery, for whatever form of engine was tried there would still exist the practical drawback against the experimentally-proved amount of power to be realized.

Let us take another illustration, bearing more immediately on our present subject. If the chemist in his laboratory were to submit the same weight of coal to destructive distillation, in the manner best calculated to make it yield the largest possible amount of luminiferous gas; after carefully collecting all the products of distillation, he might perhaps arrive at the conclusion that from every pound of coal there may be obtained five cubic feet of gas; and taking into account the quantity of coke produced, and the value of the tar, and the ammoniacal products, he might estimate the cost price of 1000 cubic feet of gas at sixpence. Such an estimate, founded merely on the results of laboratory experiments, without considering the numerous heavy expenses incidental to the manufacture and to the delivery of the gas, would be manifestly absurd, though based on the actual quantity of gas obtained from a given weight of coal. Supposing the scale of operations to be enlarged, and the chemist, instead of confining himself to the laboratory, were to construct a model gas-work in which all the operations necessary to the manufacture could be carried on, and the cost of the different articles consumed and produced could be estimated, not by pounds merely, but by tons, it might be thought that he had then gone beyond the bounds of experiment, and had entered the domain of practice, and that the results obtained under such circumstances might be regarded as of equal authority to those attainable in a regularly established gas-work. But it would be merely an experiment even then. An experiment, it is true, on a large scale, and from its approximation to a practical manufacturing process apparently conclusive, though as it would still differ in many respects from an actual working establishment, those who relied on it would be misled by a specious fallacy and a mischievous delusion.

We have from time to time adverted to the negotiations carried on during the last five years for a renewal of the contract for lighting Paris. Those negotiations were brought to a close by a treaty, the outline of which has been already published in our journal. This treaty was agreed to by all the municipal and administrative authorities, and only waited the Imperial sanction. The Emperor appointed four distinguished members of the *Academie des Sciences* (Messrs. Regnault, Chevreul, Morin, and Peligot) to conduct a series of experiments on a large scale with a view to determine the lowest cost at which gas might be produced, and to report the result. That report has just been published, from which it appears that the results obtained from the experiments differ most extraordinarily from those hitherto obtained either in the laboratory or in gas-works. We have no doubt of the ability and good faith of the commissioners, and they seem to have taken some peculiar precautions to guard against error. Nevertheless, we must be excused from placing such implicit reliance on their skill and care, as to abandon faith in all previous investigations by equally eminent scientific men, and in the practical results of the best conducted gas-works; nor is our confidence in those experiments strengthened by observing that they present some wonders which rival the marvels exhibited by modern wizards on other scenes of action.

Before proceeding to examine the report more closely, it will be desirable to give an abridged description of the apparatus with which the experiments were conducted, and the mode of proceeding as recorded by the reporters.

The work built specially for the experiments of the commissioners consisted of a rectangular oven, containing five cast-iron retorts placed in two rows, three being below and two above. These retorts were heated by two connected furnaces, so arranged that the hot gases produced during combustion surrounded each retort successively, and descended again in a large chimney. The furnace was arranged in such a manner as to economise the heat as much as possible. The air admitted was limited to the least quantity that was necessary for perfect combustion, and it was previously heated by the hot gases escaping up the chimney; the admission of the air being regulated by means of an hydraulic vane. The external air was excluded from the ash-pit, under which there was a trough of water kept constantly supplied. The water, heated by the hot coals in the grate, produced a quantity of steam which excited the combustion of the coke, and made it burn with a light flame. This arrangement, the commissioners observe, had "the double effect of economising the fuel and preventing the oxidation of the retorts."

The gas generated by the distillation of the coal passed first through a series of condensers, in which the ammoniacal liquor and the less volatile oils were deposited, it was then conducted by a pipe to the purifiers, from thence to a meter, and afterwards to the gasometer. The ammoniacal liquors and the tar were collected in a cistern lined with Roman cement, from which they might be pumped up. There were three purifiers through which the gas passed successively to the gasometer. The first one was filled with coke; the two others with lime and water. The coke in the first purifier was changed every fifteen days; and after being thus impregnated with bituminous matters, it was used to heat the retorts, "so that it occasioned no expense." The lime in the second purifier was changed every five days; and that in the third, every eight or ten days. The charge of each retort was 100 kilogrammes of coal; the distillation of which occupied from four hours, to four hours and a half. Thus in twenty-four hours there passed through the five retorts from 2500 to 3000 kilogrammes of coal. The meter for measuring the quantity of gas produced, was adjusted at the prefecture of police, and placed under seal to prevent any alteration of the indications. To remove any doubt of its accuracy, its indications were verified by measuring on a vertical scale, the volumes of gas collected in the gasometer. It was found, on comparing the results of the two modes of measurement, that the meter indicated from two to three per cent. more volumes of gas than the gasometer; which was attributed to the temperature of the gas being higher when it passed through the meter than when cold in the gasometer. Nevertheless, the commissioners adopted the indications of the meter in preference to the actual measurement of gas collected; because the temperature of the atmosphere at the time of making the experiments was greatly below the average temperature of the year.

All the experiments were conducted under the inspection of

M. Regnault, the President of the Commission, and of M. Descos, engineer of mines at Troyes, who, at the request of the Commissioners, was appointed to assist in their investigations. "The weights," say the reporters, "of the coal and of the coke, the measurements of the meter and of the gasometer, were made by us. To render all fraud impossible, during the rare occasions when we were obliged to be absent, sentries taken from the Chasseurs of the Imperial Guard in garrison at St. Cloud, and who were relieved every four hours, exercised a rigorous surveillance, according to the instructions we gave them. They were principally charged to prevent the entrance into the work of coal, tar, or any combustible substance, and not to allow the stokers to take coke for heating the retorts from any place than from a heap previously weighed, which we had placed for their use. Before commencing an operation on a new sort of coal, we had all combustible matters belonging to the previous operation cleared away from the works, and kept only a lot of coke, accurately weighed, which served to maintain the temperature of the oven, and to effect the distillation of the previous charges of coal. Afterwards, the coke necessary for heating the ovens was taken from the heap of coke produced by the operation itself. The coke appropriated for the heating was given to the stokers in quantities of 80 kilogrammes. The lot of coal intended for distillation was introduced at once into all the retorts, carefully weighed and measured, the quantity in each retort being 100 kilogrammes. The coke taken from the retorts was cooled with water, then piled up in a heap near the furnace until the produce of three successive charges had been collected. We afterwards weighed the coke produced from the three charges, about four hours after the extinction of the coke taken from the last charge, and then it was taken to the general heap." "At last all the coke collected in the yard was weighed. The total weight obtained represented the real produce of all the coke during the continued operation, and ought to have been equal to the sum of the separate weights of coke from teh various three charges, less the quantity consumed for the heating, which had been weighed out during the continuance of the experiment. The sum of the separate weights of the coke was always a little greater than the weight of the whole mass; because, at the time of the separate weighings, the coke always retained a small portion of the water with which it was cooled. In every case we always took as the weight of the coke produced the result of the general weighing, which usually took place twenty-four hours, and sometimes thirty hours, after the drawing of the last charge." The gas in the gasometer was examined nearly every evening, to test its lighting power, by means of a shadow photometer. Its lighting power was compared with that of the gas of the town of Sèvres, and also with a Carcel lamp, burning forty-two grammes of oil per hour. The gas made was always entirely consumed, either in lighting the manufactory of Sèvres, or in large work-shops, connected by pipes with the gasometer.

The quantities and the kinds of coal used in the various experiments were as under:—

Experiment No. 1,	was on	20,500	kilos.	(20½ tons)	of Anzin coal.
,, 2,	,,	5,500	,,	(5½ tons)	of Mons. coal.
,, 3,	,,	7,500	,,	(7½ tons)	,,
,, 4,	,,	13,000	,,	(13 tons)	,,
,, 5,	,,	5,000	,,	(5 tons)	,,
,, 6,	,,	20,000	,,	(20 tons)	of Hornu coal.

The quantities operated on were amply sufficient for the attainment of results approaching to those of a working gas establishment, if all the exceptional circumstances that tended to make a difference had been understood and properly appreciated. But even the most experienced gas engineer would find it difficult, if not impossible, to comprehend and calculate with accuracy the various allowances required in order to bring the results of experiment, on however large a scale, to approximate closely with those of a regularly operating gas-work. It was not to be expected, therefore, that mere experimentalists should have sufficient practical knowledge to work out the problem correctly; hence it is that their report, whilst professing to be founded on experiments in an actual gas-work, is little more than a specious fallacy and a mischievous delusion.

Some of the circumstances which they have omitted to consider we shall presently point out; but our attention is arrested in the first instance by the extraordinary results, shown by the experiments, of the extraction from the retorts of a greater weight of matter than was put in.

When 100 parts by weight of any substance is subjected to ordinary analysis, the chemist never expects that the constituent elements will realise the whole amount, for there is always some deficiency—more or less, according to the care and skill in manipulation—which is attributed to waste during the process. Not so, however, with the experiments of the four distinguished *savans* of the *Academie des Sciences*, when operating in the great laboratory at St. Cloud. With them there is no waste; on the contrary, there is a miraculous creation of matter! When M. Houdin, the French conjuror, drew forth from an apparently empty hat a teeming abundance of floral treasures, the feat might be more astonishing, but it was not in reality more wonderful, than the creation of matter by the commissioners; and their merit may, perhaps, be considered the greater, because they seem to be modestly unconscious of having performed any wonder at all. We shall be doing them good service, therefore, by pointing out to the admiration of the world the extent of their achievements.

It is in their second series of experiments that this miraculous exertion of power is the most manifest. From 100 kilogrammes of coal they obtain 78·6 of coke, 6·37 of tar, and 6·96 of ammoniacal liquor, and the volume of gas was 24·1 cubic metres, which must have weighed 13·14 kilogrammes, estimating its specific gravity according to its stated luminosity. These amounts show that 105·7 kilogrammes were derived from 100. But these were not all; for there must also be added to the weight of the gas 15 per cent. for the carbonic acid and sulphuretted hydrogen extracted from it during purification, thus making the total product of 107·4 kilogrammes out of 100; or an absolute creation of nearly seven and a-half per cent. of matter!

These astonishing analyses, conducted with such ostentatious display of care, must deeply interest the scientific world; and we now present the mean results of the whole series of experiments conducted on different kinds of coal; adding to the figures of the reporters, for the purpose of making the analyses complete, the weight of the gas and of the other products that must have been extracted during the process of purification.

EXPERIMENT NO. 1.

Coke	74·40
Tar	6·35
Ammoniacal liquor	6·30
Gas 23·9 cubic metres, which to give the light stated must have had a specific gravity of at least ·420 when purified	13·04
	100·09
To which must be added the weight of the carbonic acid and sulphuretted hydrogen equal to 15 per cent. on the purified gas	1·95
	102·04

Excess of products over the weight of the material operated upon, 2·04 per cent.

EXPERIMENT NO. 2.

Coke	78·60
Tar	6·37
Ammoniacal liquor	6·96
Gas 24·1 cubic metres	13·14
	105·07
Carbonic acid and sulphuretted hydrogen	1·97
	107·04

Excess of products over the weight of the material operated upon, 7·04 per cent.

EXPERIMENT NO. 3.

Coke	72·41
Tar	7·31
Ammoniacal liquor	7·97
Gas, 21 cubic metres	11·45
	99·14
Carbonic acid, sulphuretted hydrogen, and ammonia	1·71
	100·85

Excess of products over the weight of the material operated upon, ·85 per cent.

EXPERIMENT NO. 4.

Coke	74·88
Tar	5·67
Ammoniacal liquor	8·24
Gas, 21·33 cubic metres	11·63
	100·42

Brought forward	100·42
Carbonic acid, sulphuretted hydrogen, and ammonia	1·74
	102·16

Excess of products over the weight of the material operated upon, 2·16 per cent.

EXPERIMENT NO. 5.

Coke	76·94
Tar	7·74
Ammoniacal liquor	7·03
Gas, 24·16 cubic metres	13·18
	104·89
Carbonic acid, sulphuretted hydrogen, and ammonia	1·97
	106·86

Excess of products over the weight of the material operated upon, 6·86 per cent.

EXPERIMENT NO. 6.

Coke	75·51
Tar	6·93
Ammoniacal liquor	7·67
Gas, 23·15 cubic metres	12·63
	102·74
Carbonic acid, sulphuretted hydrogen, and ammonia	1·89
	104·63

Excess of products over the weight of the material operated upon, 4·63 per cent.

MEAN OF THE WHOLE EXPERIMENTS.

Coke	75·46
Tar	6·73
Ammoniacal liquor	7·31
Gas, 22·94 cubic metres	12·51
	102·01
Carbonic acid, sulphuretted hydrogen, and ammonia	1·87
	103·88

Excess of products over the weight of the material operated upon, 3·88 per cent.

There are some persons in the world so sceptical, that they may be disposed to doubt the fact that matter was created during these experiments, and may rather question the accuracy of the results than be inclined to believe that the academicians succeeded in working a miracle. We can imagine them, for instance, questioning whether some extraneous matter did not get mixed with the coke, when they find that the Anzin coal is reported to have yielded 74 per cent. of coke, though Mr. Lewis Thompson was not able to extract from the same kind of coal more than 70·1, as recorded by him in the "Chemistry of Gas-Lighting." The coke produce of the best Newcastle gas-coal, as given in the hitherto undoubted analyses of that gentleman, are—

Pelton	71·6 per cent.
Pelaw	69·7 „
Leverson's	65·1 „
Washington	68·75 „
Urpeth	71·3 „
Dean's Primrose	70·75 „

These analyses having been made in a crucible, the results are somewhat greater than can be obtained in practice; the actual experience of the London gas-works giving about 69 per cent of coke, as an average, from Newcastle gas coals. It may be suspected by the sceptics aforesaid, that the excess is attributable to the absorption of moisture; and it must be admitted that the academicians seem to have made an unstinted use of water in cooling the coke.

The commercial part of the report presents conclusions, if possible, more extraordinary than the experimental. By undervaluing the materials employed, by exaggerating the quantity and the value of the products, it is made to appear that gas of "very good quality" can be delivered into the gasometer at a cost of 4½d. for 1000 cubic English feet! The following are the figures given in the report:—

100 kilogrammes of coal are assumed to cost		f. 2·400
Surplus residual produce:		
55 kilogrammes of coke, at 3f. the 100	1·650 f.	
6·73 kilogrammes of tar, at 5f. the 100	·336	
7·31 kilogrammes of ammoniacal liquor, at 0·50 the 100	·036	
		2·022
Cost of 22·94 cubic metres of gas		0·378

The academicians thus profess to be able to make nearly 23 cubic metres of gas of "very good quality" for 0·378f. (equivalent to 1 $\frac{6}{10}$ centimes the cubic metre, or about 4¼d. per 1000 cubic feet), a price which no gas engineer in England (several of whom are also interested in large gas-works on the Continent) can admit to be correct from the data given, and which can only be the result of the manufacturing inexperience of the experimenters. Thus, for instance, the commissioners reckon nothing for wheeling the coke from the store to the retort-house "because the stokers are charged with that duty;" and if the stokers work for nothing, they are right in their estimate: but, unluckily for the gas companies in all countries, they cannot obtain labour on those terms; and they must either pay the stokers extra wages for extra work or employ a greater number of men to wheel the coals.

Whilst the price of coals is thus reduced, the value of the residual produce is considerably increased. The commissioners not only obtained from the retorts five and seven per cent. more produce than the most carefully conducted laboratory experiments prove can be possibly obtained by less gifted individuals, but their coke was in such excellent condition that it sold at a higher price, without any loss from breeze or dust. Not, indeed, that their coke was absolutely free from broken bits, but the customers were so accommodating as to purchase the breeze at full price, and even to prefer it. On this point, however, we must let the reporters speak for themselves. "The breeze sold readily, and at a price that was not very inferior to that of the large coke, because it presented to the consumer the advantage of greater weight in the hectolitre, and it served very well for certain manufactories." Again, "When we sold them screened coke, they would not pay a higher price; they declared that they preferred buying our coke as it came from the retort at the same price, and to screen it themselves. This can be readily conceived, for the small got between the large pieces and did not occupy more space in the hectolitre." The *savans* of the *Academie des Sciences* appear, in their commercial transactions, to have imitated the example of the Irishman, who boasted that he had passed a bad shilling by putting it between two half-pennies in payment of a penny toll. By that means, no doubt, they would readily pass off the breeze to their customers, but they would not add much to the amount derived from the produce. Their coke sold well, and by valuing the whole produce at the price current during one of the severest seasons experienced for many years, they make it appear that the average price obtained by the gas companies has been much less than such experienced traders as the academicians could have procured.

In this manner, the results, both experimental and commercial, aimed at by the commissioners differ materially from those experienced in any gas-works in France, or in any other country. There are other matters which the commissioners have not thought worth consideration, that are deemed by practical men to constitute important elements in the estimation of the cost at which gas can be produced in a regularly working establishment. We shall have occasion to return at a future period upon these points, and we shall establish that it is in consequence of having neglected them that the commissioners have allowed themselves to become believers in heresies which they may hold to be truths, but which, at least, we in England cannot consider as such. Besides, in undertaking the investigation, the commissioners confined themselves to inquire into "the net expense of the distillation of coal and the deductions to be made for the sale of the coke, the tar, and the ammoniacal liquor." They agreed to leave entirely untouched the cost of purification and maintenance of the apparatus—the cost of distribution and the repairs of pipes—the general expense of management. These important elements, in calculating the cost price of gas, constitute considerably more than one half; yet they were altogether left out of consideration. The commission, therefore, has only treated the question in an incomplete manner, and from their labours no conclusion can be drawn of any value in a practical point of view.

To avoid misapprehension, the following recapitulation of the conclusions arrived at by the commissioners is translated from their report. "In short, we believe we can with confidence conclude, from the long experiments we have conducted, and in which we endeavoured to approach as closely as possible to the working conditions of a large manufactory, that *the cubic*

metre of gas at the gasometer might be obtained in a well-conducted work, conveniently situated near to and outside the walls of Paris, at a price which would not exceed two centimes at the actual price of the original materials, and of the residual products of manufacture. It being understood that this estimate is limited to the price at which it may be obtained from the coal; that is to say, not taking into consideration all the cost of manufacture, of management, of the maintenance of the pipes, of the capital embarked in the operation, &c., &c. The price of the cubic metre of gas delivered at the burner would not then exceed two centimes and a-half, admitting even a waste of 25 per cent. in the conducting-pipes, as stated by the companies, and which has been often disputed. According to some inquiries that we have made in the gas-works of the country, the loss in the pipes is only 7 per cent."

We feel convinced that every gas engineer and manager in Great Britain will agree that data, such as those we have exposed, are utterly valueless for determining the cost price of gas. Experiments are eminently useful as guides to practical application, indicating as they do the exact amount of produce attainable under the most favourable circumstances; but when it is attempted to deduce from experiments the actual results of practice, and they are made the bases of commercial operations, instead of being trusty guides they become *igni fatui*, that lead their followers into the slough of despond.

The large amount of British capital invested in the lighting of Marseilles, Bordeaux, Toulouse, Lille, Rouen, Havre and other large cities in France, would be a sufficient reason, had we no other, why we should jealously watch every movement tending to depreciate the value of that property; but even in the absence of any such motive, a document emanating from four distinguished members of the *Academie des Sciences*, must exercise considerable influence over the public mind in connection with gas lighting all over the civilised world, and we have consequently thought it to be our duty thus to expose its fallacies.

SIR B. HALL'S SANITARY LEGISLATION.

THERE is something profoundly humiliating to every properly-constituted mind in the description of measures and the course of proceedings lately adopted by the Government with reference to sanitary matters; so gross have been the ignorance and incompetence of the heads of departments entrusted with the preparation of the acts already presented, and so totally devoid have been their proceedings of the good faith and the attention to public interests which ought to characterise the proceedings of public servants.

In our last number we called attention to the defects of the bills lately introduced by Sir B. Hall in a somewhat cursory manner: a closer and more careful examination has confirmed the unfavourable impression we then felt and expresed, and the evident desire of Sir B. Hall to trick the Legislature into passing his crude attempts at law making, at the same time that he labours to suppress all discussion upon the subjects involved, prove that the public can hardly be sufficiently warned of the danger which overhangs its best and most vital interests. It is true that the gas and water companies have already petitioned against the Nuisances Removal, and the Public Health Bills, in considerable numbers; and that manufacturers appear at length to have discovered how seriously their interests are affected, whilst some class of the working-men of this essentially-manufacturing country are beginning to feel the injurious results of the officious intermeddling of their self-styled advocates. The expression of public opinion on the subject is not, however, sufficiently strong to arrest the mad career of our fashionable Communists, who make the interests of the poor the stalking-horses of their own intrigues for place, power, and salary. All who are sincerely desirous of securing the continued prosperity of our country should exert themselves—in season and out of season—to awaken all classes to the eventual tendencies, the ruinous consequences, of the above-named bills.

Before entering into an examination of those bills, we would, however, observe that Sir B. Hall's speech, in reply to the objections urged against the second reading of them, was characterised by one of the most signal instances of bad taste, to say the least, upon record. He concluded his speech in fact by repeating the stale joke about the clean and dirty parties, and endeavoured to affix the nickname of the dirty party on those who opposed him. Now, last year, Sir B. Hall himself was the leader of the party to which Lord Palmerston applied Mr. Chadwick's nickname; and when the first-named gentleman tries to use for his new purposes a means of ridicule he formerly repudiated, he certainly calculates upon a strange amount of forgetfulness on the part of others; indeed it was remarked, that when he uttered his quotation from Mr. Chadwick's vocabulary he was evidently half-ashamed of himself, for he hurried it over, and spoke as indistinctly as he could. The mischief of a bad joke of this kind is not, however, confined to those who may read Parliamentary debates; it may, and often does, serve to dispense some people from the (to them) onerous task of thinking, and therefore no really conscientious minister would resort to so contemptible a mode of attaining the success of any measure. This joke would be objectionable in the mouth of any one; its use by Sir B. Hall was singularly injudicious, on account of his own previous conduct. A general remark is also to be made with respect to the tone which some parties endeavour to give to all discussions upon sanitary subjects, and the force of which Sir B. Hall has evidentiy perceived, viz., that there are many questions which everybody treats upon, but nobody understands; whilst, in order to excite the sympathy of superficial reasoners, it is enough to talk in pompous language of imaginary evils, or to profess the desire to remedy defects which do not exist. So, in this case, empty words have been paraded, where facts ought to have been produced; and when parties, seriously affected, have protested they have been abused, whilst their arguments remain unanswered.

The Nuisances Removal and Diseases Prevention Acts Consolidation and Amendment Bill, which was the first, in the order of time, presented by Sir B. Hall, has been most materially altered between the second reading and the investigation in committee, but by whose order it is hard to say. Strangely enough, the whole of the clauses relating to the prevention of diseases are left out of the (so called) amended bill, so that, in fact, the preamble of the bill is no more a correct exponent of the objects it is intended to effect than is the preamble of the Public Health Bill, which does not contain even the meagre allusion to the necessity for protecting the often-quoted public health to be found in the act of 1848. However, the practical bearings of the (so styled) amended bill will be found to consist in the following clauses:—

Clause 12. "The word nuisance under this act shall include, any filthy, unwholesome, or dilapidated premises" (and be it observed, the definition of "premises" is extended to mean "all messuages, lands, tenements, or places, whether open or enclosed, whether built on or not, and whether public or private"); "and any decaying or offensive accumulation or deposit." Clause 13 impowers the local authorities to name inspectors of nuisances, and to make by-laws for regulating the duties of such officers; but it does not render imperative any test of their practical qualifications, even so unsatisfactory a test as that provided by 10 & 11 Vic. c. 34, nor does it define the nature of the by-laws so to be made. Clause 14 confers the most summary and unconstitutional powers of entry upon local authorities or *any* of their officers; but, notwithstanding these powers, they are entitled by clause 15 to set the whole machinery of the act in operation upon certificate from any member of a long list of parties who are, or might often be, subject to the imputation of being influenced by personal motives, without any entry or examination. A series of vexatious clauses follow, but that numbered 31 is so worded that it would be at any time possible for local authorities to close the most important factories in the country—gas companies amongst others; and as by the 88th clause of the proposed Public Health Bill local authorities are to be compelled "to keep their district free from nuisances," and for this purpose they are empowered "to exercise such powers, and take such measures, as may be vested in, or exercisable by them under any act or acts Parliament for the time being in force," it follows that the powers to be conferred by this bill would be applicable in all cases where the Public Health Bill would be brought into operation.

Now this 31st clause is as follows: "If any candle-house, melting-house, melting-place, or soap-house, or any slaughter-house, or any building or place for boiling offal or blood, or for boiling or crushing bones, or any manufactory, building, or place used for any trade, business, process, or *manufacture, causing offensive effluvia*, be at any time certified to the local authority by any officer of health, or medical officer, or any two legally qualified medical practitioners, to be a nuisance,

and injurious to the health of the inhabitants, the local authority shall direct complaint to be made before two justices; and any justice may summons, before any two justices, the person by, or on whose behalf, the work complained of is carried on, and such justices shall inquire into such complaint, and they may, by an order in writing under their hands, order such person to discontinue or remedy the nuisance within such time as to them shall appear expedient, provided always, that if it appears to such justices, that in carrying on any business complained of, the best means then known to be available for mitigating the nuisance, or the injurious effects of such business, have not been adopted, they may suspend their final determination, upon condition that the person so complained against shall undertake to adopt, within a reasonable time, such means as the said justices shall judge to be practicable, and order to be carried into effect for mitigating, or preventing, the injurious effects of such business."

Now, Sir B. Hall has attempted to smother all discussion upon this monstrous clause, by saying that it is only a reproduction of the 104th clause of the 10th and 11th Vic. cap. 34; but it is to be observed, that the latter act is, according to its preamble, only to be applied to "such towns or districts as shall be comprised in any act *hereafter* to be passed," whereas the Nuisance Removal Bill is to apply to all England; Ireland and Scotland being for the present left out of the question, for what reason nobody but the functioneering party knows. Passing aside this observation, however, the very preamble of Sir B. Hall's Nuisance Bill states that there is a necessity for substituting some effectual provisions against nuisances for those now in force, and every honest man would suppose that the whole of the complicated question of nuisances would, therefore, be brought before the committee. It ought to be so brought; and we will, therefore, exercise our right publicly to call attention to the attempt to quash investigation. We ask any person acquainted with manufacturing operations, if it be possible to carry on the works necessary for the conversion of any animal matter without the daily and hourly occurrence of the conditions which would place the manufacturer in contravention with the 12th clause above cited? We ask if it be possible to conduct any chemical works without causing offensive effluvia? Observe the word of the act is "offensive," not noxious, in the first part of the clause; and though afterwards the term injurious to the health of the inhabitants is inserted, the only parties who are to decide whether the business be really so injurious, are two justices and the few medical men specified. It is notorious that those learned Thebans, the justices, are so little fitted to decide difficult or complicated questions of law, that there is a tendency to withdraw from their jurisdiction even the licensing of public-houses; yet Sir B. Hall proposes to leave to *their* mercy the decision of questions affecting the rights and property of the manufacturers of England, without the assistance or control of a jury! Nor can the provisions for appeals be considered to afford any sufficient protection; for, in the first place, the 45th clause of the bill provides that the appeal shall only lie to the Court of Quarter Sessions, where it is well known that much difficulty always exists in obtaining the reversal of a decision, be it ever so wrong; and, moreover, no such appeal can be made unless notice of the appeal should have been given within seven days of the date of the proceeding complained of.

Our space prevents a full exposure of the monstrous iniquity of this bill. Like the new Public Health Bill, it is objectionable from one end to the other; and we urge our countrymen, seriously and sadly, to examine them both; for we are convinced that, if once understood, Sir B. Hall's attempts at communism would be indignantly rejected by the common sense of the nation.

RESUSCITATION OF PEAT GAS.

A JOURNEY TO MEAUX.

The visitation of the ghost of Hamlet's father to "the glimpses of the moon, making night hideous," was not more astounding to the prince of Denmark: nor would the reappearance of Bossuet in the pulpit of the cathedral of Meaux, which once resounded with his impressive eloquence, more amaze the catholic world, than the gas manufacturers of France were astonished by the recent announcement of the resuscitation of peat gas; and that, instead of "making night hideous," as might have been predicted from its antecedents, it was brilliantly illuminating the aforesaid town of Meaux. It was supposed that the peat gas bubble, which in its best days did not contain a sufficiency of luminous gas to blow it out decently, had been completely burst, and that the scheme had been buried, for aye and evermore, deep in its native bogs. Conceive, therefore, the surprise excited, when the *Journal de l'Eclairage au Gaz* of the 20th February, announced authoritatively that "at the time we write these lines, the town of Meaux is lighted with peat gas; and we will add, that the most serious objection that has been raised to the substitution of peat for coal in the making of gas, has been annihilated by the experience of facts!" The usually sober-minded *Journal des Débats* was almost beside itself on contemplating the wonderful effects and probable consequences of this successful application of peat to illumination, and thus gives vent to some of its ecstatic feelings: "Peat has seen its future enlarged, by a recent discovery nurtured by serious studies, which several men, eminent as much by their social position as by their high rank in our national industry, have taken under their patronage. By means of processes peculiar to the new invention, the peat produces a gas more luminous, more salubrious, and quite as abundant as the gas supplied by coal. Tried at first on the scale of a model manufactory, these processes were afterwards applied in a working establishment of the capital, and are now applied to the lighting of the town of Meaux, where peat gas alone has been for some time used, upon a length of pipes of seven kilometres. *The superiority of peat gas is now, then, an ascertained fact; and it depends no longer on the problems of science or the uncertainty of practice.* This useful invention, destined to realise great results, is the object of an enterprise the applications of which the founders desire to develop by making an appeal to industrial capitalists. The company they have established, under the name of the *Société du Gaz de Tourbe*, appears to us to deserve serious attention. Obtaining the gas from a material which covers more than 800,000 hectares of our soil, and the working of which on a sufficiently large scale would be sufficient for the lighting of all the towns of France for many ages, there will be found in the abundance and the low selling price of those bogs the means of supplying the wants of consumers at prices much below those of the existing gas companies; there will be found, besides, in the residual products, a coke which rivals in its qualities the best fuel yet known, which coal, at the present rate of consumption, will not be sufficient to supply the numerous demands even at much higher prices."

These flourishing representations of the actual state of things at Meaux, induced a party of gentlemen, interested in gas lighting, to proceed to that town to witness the extraordinary fact; and leaving Paris one afternoon at the end of last month by the Strasburg Railway, they reached Meaux about sunset, just as the gas-lamps of the station were being lighted. The brilliancy of the light seemed fully to realise the account given in the journals; and after a critical examination of the burners, the gentlemen hastened to the gas-works, more than ever anxious to witness the process by which gas of such good quality could be extracted from peat. They were freely admitted, and there seemed to be no desire to withhold information. They were first shown a diaphragm retort for distilling peat, similar to those used by the patentees of White's hydro-carbon process. Both compartments had been on the previous day charged with peat, and the tar from the hydraulic main was allowed to drop into a funnel, and was thence conducted by an inverted syphon to the lower compartment of the retort, as practised with oil and dissolved resin. But for nearly 24 hours this solitary retort had not been charged, and consequently no peat gas had been made during that period. Peat charcoal had been used for fuel, but the dull red heat of the retort did not look promising. In answer to the question, whether the peat-tar obtained was sufficient for carburetting the gas, the reply of a stoker was: "Ah, sir! by no means; the tar comes from La Vilette; there it is:" pointing at the same time to several casks of tarry matter which had been obtained to supply the deficiency. This circumstance considerably damped the ardour of those who had begun to entertain expectations of great commercial advantage from the project. They were doomed, however, to still greater disappointment, for, on continuing their examination, they perceived that all the furnaces in operation were heated with *coal coke*, and they were informed that the six retorts in actual work were *not charged with peat, but with good gas coal, and that the lights they had examined and admired were*

burning coal gas! The gentlemen hurried back to the railway station not a little chagrined, and returned to Paris laughing at one another for having been so completely hoaxed. They ascertained, however, by their visit to Meaux, that on the evening previous to their arrival the town had actually been lighted with peat gas, but that after three hours' trial it had been abandoned, and coal gas again resorted to. So much for the superiority of peat gas, and the annihilation of all objection to it by the experience of facts!

Peat has for years past been a favourite material on which speculators and patentees have exercised their ingenuity. Six years ago Lord Ashley electrified the House of Commons by the exhibition of a paraffine candle, made from peat by the Irish Peat Company; but though thousands upon thousands of pounds have been spent on the scheme, and hundreds of thousands of tons of peat have been distilled, strange to say, not a pound of paraffine candles, nor any of the products of the distillation, have found their way into the market.

The French journals which have been so eloquent on the accomplished facts of peat gas, are also exulting in the application of that material for the making of paper and candles. There is no doubt that these and many other products may be obtained from peat; but, the practical question is, will the process pay? And experience has proved that it will not. The chemical composition of peat is well known. M. Sauvage, of Mezieres, analysed, in 1841, the peat of Secheval, which is of the best quality, and the results of the analysis are given in the *Annales des Mines* of 1842, as follows:—

Carbon	22
Combustible volatile matter	39·2
Ashes	8·3
Water	30·5
	100·0

The large per-centage of water would no doubt give rise to the formation of hydrogen, carbonic oxide, and carbonic acid gases, but all attempts to make peat gas available as a luminiferous agent, by the decomposition of the condensed tar, must fail as completely as have all the schemes for similarly operating on the tar from coal; and it is difficult to conceive to what beneficial purpose as fuel a material like peat charcoal, containing nearly 40 per cent. of earthy matter, is susceptible of being employed.

Communicated Articles.

PROGRESS AND PRESENT CONDITION OF THE TWO GAS WORKS AT NEWPORT, ISLE OF WIGHT.

The following statement may be interesting to the readers of the JOURNAL OF GAS LIGHTING, and, at the same time, prove useful to any Company which may be hereafter placed in a like position:—

The Old Newport Gas Company was incorporated by act of Parliament, 1821, and supplied the town with gas from that period up to 1852; in 1850, the price was 8s.; in 1851, 7s.; and in 1852, 5s. per thousand cubic feet; the Public Lamps were then charged £3. 5s. each per annum, the same having been under a contract from 1821 to 1842, charged at the ruinous price of £2 only per annum. In 1851, Sir Augustus Hillary, Bart., induced the Town Council to grant him a lease of land for the erection of New Gas Works, and to enter into a contract for the supply of the Public Lamps at the old ruinous price of £2 per annum — the Council giving him permission (without any statutory authority) to open the ground and lay down mains, pipes, &c., &c.

In January, 1852, the New Works commenced the supply of gas to private consumers at 6s. per 1000 cubic feet: upon which the Old Company (which had previously, in 1851, announced a reduction from 7s. to 6s. from January, 1852) reduced their price to 5s. per 1000. In January, 1853, the New Works then reduced theirs to 5s. also; upon which the Old Company, in March, 1853, further reduced to 4s. 6d; and the prices were continued at 5s. and 4s. 6d. respectively, to the close of 1854.

The results of this ruinous competition in so small a town, have, as might be expected, been a loss to both parties: the New Works have passed into the hands of mortgagees, and the Old Company have been unable to declare any dividends since 1850. In this position of affairs, the Old Company and the mortgagees of the New Works have actually agreed to advance the price of gas to 6s. per 1000, from January, 1855, until further notice.*

It has been asked by Proprietors, why the Old Company, being incorporated, and having statutory powers, did not put the law in force and prevent an individual from laying down mains without statutory authority? The reply is, that had the Sheffield case been decided at that time, such a course would have been adopted—and no doubt with success; but being too late, the Newport Gas Company have to thank the Town Council for their lack of generosity in inducing and supporting the erection of the New Works, to the injury of an old-established company, which, for 21 years, had supplied the Public Lamps, at half their value.

The question now remains, how shall the competing parties escape from their present unprofitable adventures? By amalgamation, upon a fair valuation of both works? or by either party purchasing the works and plant of the other? or by the mortgagees of the New Works buying up all the shares of the Old Company, with the benefit of their act of incorporation? The latter course would enable them to issue New Shares to the amount of the value of the New Works.

All these courses failing, the Old Company may go on, and with the present price of 6s. per 1000, may hope in a short time again to pay a dividend, and to see the value of their shares advance from their present depression. The consumers, of course, perceive it to be their interest to support the Old Company, in order to secure the benefit of competition in the quality of gas supplied, although the price is now the same from both works.

NEW PUBLIC HEALTH BILL.

The extraordinary, insidious, and vicious character of the bill now submitted by the president of the Board of Health to the favourable consideration of Parliament—on the once specious but now transparant, plea, that for the purpose of improving the health of the longest-lived people in the world, it is necessary to subvert all existing institutions, to destroy private enterprise, to reduce Parliament to the state of a mere political debating society, to annihilate the right of independent thought and free action in public and private affairs, to destroy the security of property, and to sap the foundations of an ancient and glorious constitution—induces the belief that the pigeonholes of the officially-defunct Mr. Chadwick have been drawn upon for the subject-matter of the proposed measure.

To describe in detail the dangerous powers sought by the bill is almost impossible. Every clause, and every sub-section of every clause, inflicts, directly or indirectly, a fatal blow on the duties, rights, and privileges of Parliament, and on the liberties, interests, and the independence of the people. Henceforward the important functions of the Legislature are to be exercised by and under the sanction and control of a Government Board, supervising a host of *functioneers* and officials, with all the successful results, as may be well imagined, that have attended the operations of Government and Government officials at Balaklava and Sebastopol, at Varna and Scutari. A system which has some acknowledged and correctible faults, but under which this great nation has nevertheless hithertoo risen and thriven, is to be overthrown at the dictation of placemen, salaried officials, and maudlin philanthropists, to make way for a substitute which has displayed many vices and has exhibited no virtues. Nay, so unsuccessful have been the results of the Government operations on the subject of public health, that on the very outset of the discussion, the question, the *important* question intrudes itself on our thoughts and reflections—What has been the benefit derived from the erection of the General Board of Health, and why should such a useless and unconstitutional authority continue to exist? Let Croydon, Sandgate, Southampton, Rugby, Rotherham, Selby, and fifty other officially afflicted districts, rise and answer.

But it is time to point attention briefly to a few of the most salient points of the measure.

The bill commences with a long interpretation-clause, by which unusually artificial meanings are given to some of the most important terms employed in the construction of the subsequent clauses. A new and technical language must, therefore, be acquired before any person can make himself acquainted with the enormity of the proposed powers.

This done, the next step is to re-construct the General Board of Health (nominally for two years and a session, but in reality on a firm and permanent footing) to provide for the appointment of a long retinue of officers, and to secure the payment of the salaries of functionaries and functioneers (whatever may be their future number) from and out of the national purse.

The 12th, and some subsequent clauses, empower all "*places*," the metropolis included, to *adopt* the act on the supposed free will, and by the spontaneously expressed consent, of the ratepayers.

But by the 32d clause, this *apparent* concession to popular and and constitutional rights is negatived by the re-enactment of one of the most objectional sections of the act of 1848, by which it is provided that the General Board of Health may intervene and

---

* PUBLIC NOTICE.

TO THE GAS CONSUMERS OF NEWPORT AND THE VICINITY.

Notice is hereby given, that in consequence of the continued High Prices of Coals, it has become the imperative duty of the Directors and Proprietors to announce, that from and after the expiration of the last Quarter in the present year, 1854, the Price of Gas supplied, both from the Old and New Works, to Private Consumers, by Meter, will be charged at Six Shillings per Thousand Cubic Feet, for Net Cash, without any Discount, until further Notice.

Payments as heretofore to be made Quarterly.

By Order of the Committee of Management of the Newport Gas-Light Company of the Old Works, GEORGE JOYCE, Clerk.

On behalf of the Mortgagees of the New Works, *Newport, Dec.* 12, 1854. RICHARD WOOLRIDGE, Receiver.

apply the act on receipt by them of a petition [purporting] to proceed from a small minority, consisting of only *one-tenth!* of the ratepayers, and in this case it is provided that the Government inspector!! shall be the chairman of the meeting of the ratepayers to be held in consequence of such "application."

Supposing, however, the ratepayers should, in the exercise of their discretion, pelt the inspector and reject the "application," the general board have yet a third string to their bow. It will be remembered that when the Public Health Act of 1848 was before Parliament, the Asiatic cholera was then pursuing its second remarkable and irrepressible march to these shores: the Chadwickian theory and influence were just originated—fear and mysticism had alike taken possession of the legislative mind, and in great haste in was enacted by the Lords, after the proposition had met rejection in the Commons, that wherever the annual mortality should exceed 23 in 1,000, the General Board of Health might interfere without, and even against, the will of the ratepayers, enforce the application of the Public Health Act—that is to say, their own imperious powers—abolish existing authorities, alter and repeal existing local acts, and in other respects exercise unsought for legislative powers never before delegated by Parliament, and which it may well be doubted whether Parliament can with safety, or in accordance with original principals and constitutional law, so delegate to any inferior, and much less to a *Government* tribunal. *Delegatus, non potest delegare.* Now, inasmuch as the returns of the registrar-general demonstrate that the average mortality of the whole kingdom exceeds twenty-two in a thousand, it follows (as is the fact) that the mortality of populous places is almost invariably greater than twenty-three in a thousand; and hence the effect of the measure now before Parliament, is to warrant the General Board of Health in intruding themselves into all the towns of the kingdom, (London, Liverpool, Manchester, Birmingham, &c. &c.,) to the annoyance and injury (*see* rating clauses) of large communities, and to the destruction of the admittedly important principle of uncontrolled local self-goverment. A more insiduous and surer scheme for the introduction into this country of the worst portions of the continental system of subjection to CENTRAL GOVERNMENT was never devised.

Omitting for the present (and only for the present) notice of many most objectionable powers, by the 31st clause it is proposed to be enacted, that no person shall (except subject to heavy penalties, and the demolition of the structure) be at liberty to build or rebuild any house which shall not be approved by the local board, not merely with respect to its drainage, over which some popular care might perhaps be permitted, but also as respects

a. The thickness and materials of the walls!
b. The heights and dimensions of the rooms!!
c. The means of ventilation!!!
d. The situation of the water-closet, &c.!!!!
e. The provision for drainage, supply of water, and deposit for dry refuse!!!!!

Again, by clause 95, immense powers are taken over, not only all existing streets, but also over all intended streets, whereby every owner of valuable land available for building purposes is subjected to an indefinite extent to the interference of the general and local boards, in the disposition and application of his own property. (*See* also the remarkable interpretation of the word "Street.")

Stringent and obnoxious as these provisions are, their objectionable effects are far exeeded by the still more extraordinary powers proposed to be conferred under the 100th, 103rd, and 108th sections, whereby not only is the very principle of *private enterprise* proposed to be *extinguished* by the covert, but nevertheless well-planned, annihilation of gas and water companies; but by the last-mentioned clause the land and stream of every nobleman and gentleman may be *compulsorily* acquired for the construction of waterworks, or for the other numerous purposes of the local board, without the special authority of Parliament, and with only the sanction of the local court of petty sessions, after three weeks' notice!!! Thus private property, hitherto held sacred from all but parliamentary interference, and from time immemorial fenced round and guarded with the most jealous care, is henceforth to be held at the mercy and subject to the interference of the members of any local board of health established by or under the authority of the central board, and consisting of ratepayers qualified for office by a £15 rental! and chosen, it may be, by an uninformed or influenced cottage constituency!! The judgment and supervision of Parliament are to be no longer exercised over propositions gravely affecting the most valued rights and interests of the subject; the avenues to legislative redress are to be hereafter closed, and the means of obtaining from the highest tribunal those proper and necessary protections for special injuries are to be denied. In short, a line is drawn, nay, an impassable gulf is opened between Parliament and the people under the shallow pretext that the labours of Parliament are to be spared and abbreviated, and, as it is stated, but by no means proved, some pecuniary expenditure avoided. (*See* evidence of expenses incurred under the Local Inquiries Act, now repealed.) It might, perhaps be right on such grounds to ask Parliament to revise its standing orders, to simplify its practice, and to diminish its fees; but it cannot be, and is not, justifiable on so weak a pretence to break down and destroy at one fell swoop those barriers which long experience and admitted necessity have erected for the protection of private rights, and against the confiscation of the property of the few, at probably the rash instance of the many. Indeed, it has been inquired, and may be again pertinently asked, whether the capitalists who, from the absence of confidence in the employment of their well acquired wealth in the too restricted undertakings of this country, have invested money in French railways and other foreign enterprises, have even in revolutionary times been in greater danger of losing their property than they who have been so unfortunate as to embark money in parliamentary undertakings, affected session after session by such measures as the one now laid on the table of the House by Sir Benj. Hall.

Nor is this all: for by the 121st clause of the bill, it is hereafter to be in the power of the local board to *mortgage* for the purposes of the act, the whole of the land and buildings of their district, to the amount of two years' net rental!!! Thus, in the metropolis alone, the local boards will be able to mortgage the property of the inhabitants to the extent of upwards of *twenty millions sterling;* Liverpool and Manchester may be each mortgaged to the extent of *three millions*, Birmingham to a *million* or upwards, and other towns and even villages in the like proportion!!!

The foregoing statement, although it affords a very imperfect description of the nature, consequences, and effects of the extraordinary powers sought to be obtained by the General Board of Health, is perhaps sufficient to occasion members of the Legislature to pause before they are hurried on to the passing of a measure, which, under the colourable pretence of improving the health of the people, at once contemplates a deliberate violation of public rights, the destruction of the most important privileges of Parliament, the exclusion of those valuable fields for the encouragement of private enterprise and employment of British capital which have resulted in the construction of most of the large, important, and remarkable public undertakings of the day, and the subjection of the undeniably valuable principle of LOCAL SELF-GOVERNMENT to the arbitrary control of a CENTRAL AUTHORITY.

G. R. BURNELL,
Secretary of the Private Enterprise Society.

London, February, 1855.

Correspondence.

GAS AT WHITEHAVEN.

SIR,—I observe in an article inserted in your number for January last, upon the Sheffield dispute, a letter from Mr. Preston Lumb, respecting the wonders performed here in the competition for manufacturing gas, and the amazing dividends the proprietors are receiving for their invested capital. Before any one is induced to go into the business upon such representations, I would earnestly recommend them to come amongst us and inquire for themselves; and if they should return satisfied that it is as he has stated, then go on head and neck: but in the meantime

LOOK BEFORE YOU LEAP.

Whitehaven, Feb. 16, 1855.

VAGARIES OF DRY METERS.

SIR,—I lately received from a correspondent, who has the management of a gas-work in the north of Europe, a letter, from which I extract the following passage:—

"I shall feel obliged if you will give me the opinion which is now held on the use of 'Dry meters,' and whose you would recommend me to adopt. I am myself a great advocate for them for these cold climates *if they are to be relied on*, and with this idea I got my supply for this town from Messrs. * * * * * and * * * * * * about three years ago; and they now begin to show signs of weakness by stopping still, letting the gas pass through without registering it, and by the oscillation of the lights. I have written to Mr. * * * * * * several times on the subject, and he treats my letters with silent contempt; from which I infer that he is aware of the defects, and cares not to remedy them, as he is quit of his meters. I am in want of a further supply at this present moment, and am quite undecided what to do, whether to turn to wet ones, or to try some one else's dry ones. What do you advise me to do? The worst is that I have a dry station meter, and that is at the present moment in the same state.

Having no experience of such matters myself, I am in some difficulty what to reply, and find managers of gas-works are very unwilling to give me any opinion on the subject. Can any of your correspondents enlighten me?

A LONDON MERCHANT.

London, March 6th, 1855.

Register of New Patents.

No. 1624.—GEORGE FERGUSON WILSON, of Belmont, Vauxhall, managing director of Price's Patent Candle Company, and GEORGE PAYNE, of the same place, for "*Improvements in distilling fatty and oily matters.*" Patent dated July 24, 1854.

In distilling fatty and oily matters, it has heretofore been usual to previously acidify them by means of lime, or dilute sulphuric acid saponification, and then to distil in steam introduced in its ordinary or superheated state; and it has been proposed to distil neutral fats or oils in steam, introduced in its ordinary or superheated state. In these cases, the distillation has therefore been conducted at so high a temperature as to leave the glycerine, with part of the fatty matter, as a residuum

in the still, or to cause the evolution of acroleine; the effect of which last is, besides the loss of glycerine, to taint the fat acid products of distillation. Now, it has been discovered that neutral, or partially neutral oily and fatty matters, may be so distilled by heat when steam or vapour of water is mixed and distributed among them as to cause the base to distil in the state of glycerine along with the fat acids, but uncombined with them. And this invention consists of so distilling oily and fatty matters, that their base may distil over in the state of glycerine, along, but not in combination with, the acids; and thus wasteful residuum may be avoided or diminished. For this purpose, the charge in the still, the temperature, and the supply of steam or vapour of water, are so regulated, as to develop the base in such a state as enables it to distil over with the acids in the form of glycerine; and, for most fats and oils, we have found that a temperature of from 550° to 600° Fahr. is suitable.

In carrying out this invention, an ordinary still and condensing or refrigerating apparatus is employed—one being preferred with an ample refrigerating surface, such as is now resorted to and well understood for distilling saponified fatty matters when using heated steam with a view to exclude the atmospheric air, and also in order that such steam may act as a carrier to carry over the fatty vapours. The bottom of the still is heated by a fire provided with a damper to the flue or chimney, that the heat of the matters under process may be kept from getting up to a degree beyond the desired temperature. No claim is, however, made to such still or apparatus, they not being new. The stills and condensing apparatus used for the purpose may be varied, so long as they will admit of carrying on the process, according to the invention, which consists in distilling over glycerine together with the fat acids from neutral or partially neutral fats, the glycerine and fat acids being mixed, but uncombined, so that they will separate when allowed to stand; by which process the fat acids will be very pure, and the glycerine will also be very pure, but dissolved in the water resulting from the condensation of the steam passing off with the vapours of the glycerine and of the fat acids.

In charging a still, a quantity of neutral or partially neutral fats is is introduced into the heated still, and heated steam is introduced, as heretofore, when distilling saponified fats or oils in an atmosphere of heated steam, it being preferred that the heated steam should be passed below the fats or oils, and rise up through them in numerous streams; care being taken that the temperature of the matters in the still shall not come up to the temperature which will decompose the glycerine in the fatty or oily matters. A thermometer is used in the still to indicate the temperature of the contents of the still; and it has been found in all cases that it is desirable with neutral fats and oils to keep the heat below 600° of Fahr., and above 550° Fahr., as by such means it has not been found that the glycerine has been decomposed in any instance; on the contrary, the glycerine has come over very pure. It has also been found that when the fats or oils are only partially neutral, which is very commonly the case with palm oil, that, whilst there are fat acids in the still, the draft of the fires may be quickened and the process hastened; but as soon as the fat acids which were in the still have passed over, if the temperature is materially above 600° Fahr., acroleine will probably be formed, particularly if steam be not freely supplied; and the production of acroleine is quickly indicated by the pungent smell and by the action it has on the eyes of persons near the condenser, from which the distilled products constantly flow. Although the temperature, as a general rule, should be kept below 600° Fahr., charges have been worked off at higher temperatures, keeping up a very plentiful supply of steam, and have not decomposed the glycerine; still no superior result was obtained, whilst there was a greater hazard of decomposing the glycerine.

When using a still with a refrigerator or condenser in compartments, each more and more distant from the still, and each compartment provided with a cock to draw off the distilled and condensed products (which is the arrangement of condenser the inventors prefer), it is found that the products which flow from the hottest of such condensers will be, for the most part, free from water and glycerine; and the glycerine, for the most part, will be found to come off with the products which condense in the compartment of the condenser more distant from the still, and where the condenser is kept lower in temperature; and in all the receivers the fat acids will quickly separate from the glycerine and water, when allowed to stand and cool for a short time. It may be proper to state that the compartment of the condenser most distant from the still is open to the atmosphere, no pressure being necessary internally of the still and condenser.

When the glycerine is desired to be in a more concentrated state than it is when it comes over and is condensed, it may have the water more or less separated, which may be conveniently done by being evaporated therefrom; and thus will be obtained distilled and very pure glycerine, as well as fat acids.

The inventor's claim is for the distilling neutral, or partially neutral, fats and oils in an atmosphere of steam or vapour of water, in such manner as to distil over glycerine together with fat acids, mixed, but not combined, as before explained.

No. 1699.—Samuel Lees, of Salford, Lancaster, manufacturing chemist, for "*Improvements in machinery or apparatus to be used in purifying gas for illumination.*" Patent dated Aug. 2, 1854.

The invention consists in agitating or giving motion to the dry lime used in the purification of gas for illumination, either by causing the said lime to be deposited in a trough in which a screw or worm revolves, and through which the gas is conducted, or by other suitable arrangement of machinery or apparatus.

The claim is for "agitating or giving motion to dry lime used in purifying gas, either by the machinery described in the specification or by other suitable machinery."

No. 1753.—Samuel Bickerton, of Oldham, in the county of Lancaster, for "*An improved gas-light governor or regulator, which invention is also applicable to regulating the supply of water and other fluids.*" Patent dated Aug. 10, 1854.

This invention relates to an improved apparatus for regulating the supply of gas or other fluid in passing from the source to the points of consumption, so as to equalize the pressure on the latter, whatever may be the inequalities of the pressure of the former. It consists of an outer metal case, or vessel, made in two parts, connected together by flanges and screws, or other suitable means. The lower part of the case or vessel is called the tank or case. The top part of the case has a tube or pipe passing down its centre, so that when the two parts of the case are fitted together, the lower end of the pipe is nearly at the bottom of the tank, thus dividing the case into two parts or divisions communicating with each other by the space between the end of the pipe and the bottom of the tank. The inner division being the pipe and the outer division the space between the pipe and the sides of the case. A small pipe projects from the top part of the case, and has a small opening at the side, to allow atmospheric pressure in the outer division.

The inlet pipe passes through the outer case, and conveys directly into the inner division or pipe the gas or fluid to be regulated in supply. If the fluid be gas, it at once fills that portion of the pipe or inner chamber not already occupied with a denser fluid, such as water, &c., which has been previously admitted through the pipe, and partly fills the inner and outer divisions. The pressure of the gas on the fluid in the inner division works the apparatus in the following manner. The outlet pipe being closed, the pressure of the gas depresses the water in the inner division, and the float falls, bringing down with it the valve into the valve-box.

On turning on the burners, and thus opening the outlet pipe, the pressure of the gas on the fluid in the chamber is diminished, the fluid rises, taking with it the float, and thus raising the valve. This action and reaction is rendered more complete and delicate by the float being of nearly the same specifice gravity as the fluid in which it is placed. The action of the gas against the valve, in passing to the burners, also has a tendency to raise the valve and float; the form of the latter, as well as its specific gravity, favouring this result. It is thus evident that the more burners there are put in operation the pressure on the fluid in the inner division is diminished, and the more gas escapes through the outlet pipe, and, on the contrary, on any of the burners being suddenly turned off, a proportionate pressure is thrown on the fluid in the inner division, and the valve descends with the float.

The apparatus may be described as an inverted syphon, one leg of which (the inner divison) being open to the pressure of the gas or other fluid to be regulated in supply; and the other leg (the outer division) being in communication with the atmosphere.

Having now fully described the nature and intent of his invention, and the manner in which it is to be carried out, the inventor wishes it to be understood that he does not confine himself to the precise details here given, as slight modifications may in some cases be made without departing from the true principle of his invention,—but he claims as his invention—

1. The construction of a vessel, or outer case, in the manner described, or any modification thereof, which shall be similar to an inverted syphon, or pressure gauge, one leg of which shall be exposed to the pressure of the gas or other fluid, and the other to the atmospheric pressure.

2. The construction of a float of nearly the same specific gravity as the fluid in which it is suspended, and of such a form that the gas or other fluid flowing against the valve as it passes into the outlet pipe, shall cause it (the float) to rise, and thus open the valve, in proportion to the number of lights, or intensity of the current of gas. The resistance of this float and valve to the passage of gas to the burner increasing in a greater ratio than the pressure of gas in the mains.

3. The application of the invention herein described to regulating the supply of fluids.

No. 1840.—Augustin Jacquelain, Professor of Chemistry, Paris, for "*Certain improvements in the manufacture of gas for illumination and heat.*" Patent dated Aug. 17, 1854.

The object of this invention is the manufacture of gas for illumination and heat by exposing coal, or other carbonaceous or organic substance, to an excess of the vapour of water at a high temperature. The invention is founded on an important chemical principle which has been discovered; which is, that carbon in contact with the vapour of water at a high temperature acts in a similar manner to that in which it acts when exposed to free oxygen; and, consequently, when carbon is exposed to an excess of the vapour of water or steam, it rapidly passes through the state of carbonic oxide to arrive at that of carbonic acid. The carbonic acid, being absorbed by lime, or other suitable substance, leaves the hydrogen free and sufficiently pure and fit for being employed for giving light and heat, without danger to the respiration. In a similar manner, the inventor effects the purification of water-gas, or gas obtained by decomposing water by carbon in any of the ordinary modes, and which contains carbonic oxide. Coal-gas is also converted into water-gas of great purity in a similar manner, by converting its carbon into carbonic acid by the action of steam, and removing the carbonic acid by lime, or other substance capable of absorbing it. It is known that carbon, heated to incandescence in the presence of oxygen, undergoes two successive combustions. 1. An incomplete combustion, by which it is converted into carbonic oxide, if the carbon is in excess; and, 2. A complete conversion into carbonic acid, when the quantity of oxygen is more than sufficient to complete the combustion of the carbonic oxide.

Thus, to arrive at this second degree of oxidation, the carbon passes first into the state of carbonic oxide; and it is only by an ulterior oxidation that the carbonic oxide becomes converted into carbonic acid.

To ascertain the action of carbon upon the vapour of water, the in-

ventor has made a number of experiments, which have completely demonstrated that carbon acts with regard to the oxygen of water as though this oxygen were in a free state. Thus, the vapour of water being brought into contact with carbon, at a bright red heat, produces carbonic oxide and hydrogen, if the carbon is in excess; and it will produce carbonic acid and hydrogen if the carbon is burnt in an excess of the vapour of water. The carbonic acid which is first produced, decomposes the vapour of water, and is converted into carbonic acid. All organic substances which are in the gaseous state or capable of being converted into gas or vapour, such as the gaseous, liquid, or solid hydro-carbons, ethers, alcohol, essential oils, and fatty substances, and other organic or combustible substances, either in their natural state or carbonized, by being exposed to the vapour of water at a suitable temperature, may be converted into carbonic acid and hydrogen, which will be mixed with azote or nitrogen, when that substance is contained in the materials employed. In order to obtain hydrogen gas, or what is commonly called water-gas—sufficiently free from carbonic oxide to be without danger to human respiration—the inventor introduces carbon, or other combustible, in a powdered state, into a hopper of cast iron, attached to the top of a vertical retort, made of fire-clay or cast iron, and heated by a furnace. This hopper is closed at the bottom by a slide, or otherwise by withdrawing which slide, the powdered combustible is allowed to fall into a funnel, or vessel with a narrow neck, somewhat resembling the upper portion of an hour-glass. The slide is then closed, and the combustible in the funnel gradually trickles down into the retort. At the same time, a current of steam is introduced through a lateral opening in such quantity as to be in excess with regard to the quantity of combustible which falls from the funnel. The retort is thus constantly filled with an excess of highly heated steam, mixed with the powdered combustible which is thus converted entirely, or nearly so, into carbonic acid and hydrogen. In order to render the decomposition as complete as possible, the gases and vapours from this retort are conducted through a second retort filled with fragments of brick of the size of a man's fist, or more, or less, through which second retort a current of steam is passed. This mode of proceeding is also applicable to the purification of water gas, by converting its carbonic oxide into carbonic acid, and at the same time substituting for it an equal volume of hydrogen. The process is also applicable to the conversion of coal gas into water gas by passing it through the second retort with an excess of steam. The excess of steam which passes off with the gases is condensed by a refrigerator, and the carbonic acid is absorbed by means of hydrate of lime either in a powdered state or mixed with water. The carbonate of lime so produced may be made into lumps or bricks and calcined so as again to reduce it to the state of lime. It may thus be used repeatedly. Hydrogen gas is thus obtained in a pure or nearly pure state. It may be rendered luminous by any of the known means, such as suspending in its flame a net work of fine platinum wire or asbestos, or by mixing it with the vapours of hydro-carbons. It is also rendered luminous by passing it through a retort containing coal, and heated by a sand-bath to such a temperature as to produce a large quantity of essential or tarry oils. The coke which remains may be employed for the production of hydrogen gas in the manner hereinbefore described. When the gas is required for heating purposes it may be employed alone.

The inventor's claim is—

1. The manufacture of gas for illumination and heat by exposing carbon, alone or in combination, to an excess of steam at a high temperature, so as to convert the carbon into carbonic acid, and which is afterwards absorbed and removed by means of lime or other suitable substance, leaving the hydrogen of the steam in a free state and with little or no admixture of carbonic oxide as hereinbefore described.

2. The purification of water gas obtained by any of the ordinary means, by exposing it with an excess of steam to a high temperature, so as to convert the carbonic oxide into carbonic acid, which is afterwards absorbed by lime, or otherwise, leaving the hydrogen pure, or nearly so, as hereinbefore described.

3. The decomposition of coal gas, by exposing it with an excess of steam to a high temperature, so as to convert the carbon and carbonic oxide into carbonic acid, which is afterwards absorbed, by lime or otherwise, leaving the hydrogen pure, or nearly so, as hereinbefore described.

4. The manufacture of illuminating gas, by passing hydrogen gas, manufactured as hereinbefore described, and free, or nearly so, from carbonic oxide, through a retort containing coal, and heated by a sand-bath, as hereinbefore decribed.

No. 1854.—Aristide Balthazard Bérard, of Paris, engineer, and Chevalier of the Legion of Honour, for "*Certain Improvements in the manufacture of gas, coke, and other products from coal, and in apparatus for that purpose.*" Patent dated Aug. 22, 1854.

In the ordinary modes of distilling or carbonizing coal for the purpose of obtaining coal gas as the principal product, or for obtaining coke adapted for metallurgic operations or for use in locomotive engines, some of the products are either lost, or obtained of inferior quality, or at considerable cost. The object of the present invention is to obtain all, or nearly all, the products which the coal is capable of yielding, of superior quality, and in an economical manner. For this purpose it is requisite that the coal should undergo distillation in a close vessel, with little or no admixture of air, and consequently the heat must be applied to the exterior of the vessel. Moreover, for the sake of economy, and to obtain a good quality of coke, it is desirable to operate upon large masses of coal, and to be enabled to charge and discharge the vessel or oven as quickly as possible, so as to avoid loss of heat, and also to perform the operations as simply and with as little labour as possible.

In order to realise the most important condition of operating upon large masses with little or no access of air, new means are required, as it is not practically possible to construct large ovens so as to continue impermeable to infiltrations of air at the junctions of the doors or at the joints of the brickwork.

When a mass of coal is exposed to heat, it may be observed that the volatile and gaseous products are driven away from the surface to which the heat is applied, so that if the coal be surrounded on all sides by the heat, the gases will be driven towards the centre of the mass. In accordance with this principle, the inventor has succeeded in advantageously collecting the volatile and gaseous products from a considerable mass of coal, by establishing the outlet for the gas in the centre of the mass.

The inventor wishes it to be understood that what he claims is—

1. The manufacture of gas, coke, and other products, from coal, by distilling the coal in masses of not less than one ton in a cylindrical conical fire-clay retort, having its axis inclined to the horizon at an angle of not less than forty degrees nor more than sixty degrees, and having in its axis a detached or moveable perforated pipe, by which the gas is withdrawn from the centre of the mass of coal by means of an exhauster, and which perforated pipe is capable of being removed during the operation.

2.—The constructing apparatus for the manufacture of gas coke and other products from coal by the combination of a self-regulating exhauster, with a cylindro-conical fire-clay retort, having its axis inclined to the horizon at an angle of not less than forty degrees nor more than sixty degrees, and capable of being charged and discharged, and furnished with a moveable central perforated pipe for the exit of the gas, so arranged as to be capable of being removed during the operation and before discharging the coke. Also, the combination with such apparatus, of a cylindrical extinguisher for extinguishing the coke, with a double casing for containing water, and supported on trunnions on a carriage, and so arranged as to be capable of being applied to the lower end of the inclined retort, and of being moved away when filled with coke, which may be discharged by inclining the extinguisher.

No. 1873.—William Smith and Thomas Phillips, of Snow-hill, in the City of London, for "*A new mode of constructing and connecting pipes or tubes for gas, water, or steam purposes.*" Patent dated Aug. 26, 1854.

This invention consists in casting, or otherwise forming at the ends of each length of pipe or tube, a narrow rim, the outer edges of which are bevelled, so that when one length of pipe or tube is placed in connection with another, the two bevelled edges thus brought together at the juncture of the pipes form a ring or groove, for the purpose hereafter mentioned.

Over the juncture above-named, a socket, formed in two parts, is fitted. In the interior of this socket there is a groove to receive the rims of the pipes. The groove formed by the bevelled edges and the space in the groove of the socket are now filled with lead, cement, hemp, or other material for the purpose of producing an air-tight joint. The two parts of the socket are then screwed together by screw bolts passing through flanges on each part of the socket.

When it is required to form a curve in several lengths of pipe, the faces or surfaces which meet are so constructed as to be capable of being adjusted to form the bend or curve required, instead of constructing the pipe with a bend.

The inventors state that their invention relates to forming the ends of pipes or tubes (having inclined surfaces capable of being acted upon by a suitable collar or socket to hold such pipes or tubes together), so that when the ends of two such adjoining pipes or tubes are brought in contact, a channel, or ring, or grove, may be produced around the connected parts, to receive, and give internal support to, the packing applied; and whereby the packing so applied will be compressed and retained in position by the connecting collars or sockets used.

The inventors wish it to be understood that they do not confine themselves to the precise details described, so long as the peculiar character of their invention, as explained, be retained.

No. 1882.—John Kirkham, of Tonbridge-place, New-road, and Thomas Nesham Kirkham, of Edith Grove, West Brompton, in the county of Middlesex. Patent dated Aug. 28, 1854.

The first part of this invention relates to the manufacture of gas (fit for lighting and heating purposes), from steam or water which is decomposed by being brought into contact with ignited coke, and to the combination of gas so obtained with a gas rich in carbon, for the purpose of imparting thereto the requisite illuminating properties.

The second part of the invention relates to a mode of economising the fuel used in retort ovens, by the introduction to the fire-places of such ovens of streams of heated air, which derive their heat from air flues formed in the brickwork. For this purpose are vertical air flues, built up, in the middle of the oven, into which is admitted air, and conducted down to branching flues formed in the side walls of the fire-places, from which flues it is discharged laterally in streams on to the burning fuel.

The last part of the invention relates to the purification of gas, and consists in the employment, as a purifier of gas, of the refuse coke derived from Boghead coal, which refuse material, when ground or pulverized (and mixed or not with other materials), is spread over the trays or shelves of dry lime purifiers, and the gas is then brought to be purified in contact therewith.

The substances proposed to mix with this material are those now in use for the purification of gas, such as lime and animal charcoal. The Boghead coke mixed with either of these substances will, after having absorbed the impurities of the gas, form a valuable manure.

The inventors claim—

1. The general arrangement of apparatus whereby the well-known operation of decomposing steam or water may be economically and expeditiously effected, and the hydrogen derived therefrom may, when required, be combined with a gas rich in carbon. And particularly they claim effecting the combination of the gases in a mixing

chamber which receives the water-gas direct from the furnace or furnaces in which it is generated.

2. They claim the arrangement of air flues, for the purpose of heating the air prior to its introduction to the fire-places of retort ovens.

3. They claim the use of ground or pulverized coke, derived from Boghead coal as a purifier for gas.

PROVISIONAL PROTECTION

HAS BEEN GRANTED FOR THE UNDERMENTIONED INVENTIONS.

178.—Richard Laming, of Carlton Villas, Maida-vale, in the co. of Middlesex, for "*Improvements in obtaining and combining ammonia.*" Jan. 24th, 1855.

209.—William Onion, of Birmingham, in the co. of Warwick, manufacturer, for "*An improvement or improvements in gas stoves.*"

2719.—Warren De La Rue, of Bunhill-row, in the co. of Middlesex, for "*Improvements in heating products arising from the distillation of a certain tar or naphtha, to render the same suitable for dissolving or removing fatty or resinous substances.*" Dec. 23, 1854.

225.—Ephraim Death, and John Popplewell, both of Halstead, in the co. of Essex, engineers, for "*An improved stop-valve or cock for water, gas, and other liquids and fluids.*" Jan. 29, 1855.

251.—Jules Castel, merchant, and Frederic Mauricheau Beaupre, doctor, of Marseilles, in the dept. of Bouches du Rhône, France, and 32, Essex-street, Strand, London, for "*A new system of burner for lamps, called the 'pyroneumatic burner.'*" Feb. 2, 1855.

289.—Edward Davies, of Liverpool, oil refiner and distiller, of the firm of Davies, Syers, and Co., of Liverpool, for "*An improvement in the manufacture of an oil and paraffine, from a material not hitherto used for such purposes.*" Feb. 7, 1855.

NOTICES HAVE BEEN GIVEN OF INTENTION TO PROCEED WITH THE UNDERMENTIONED PATENTS.

2100.—Gemis Filhon, of Paris, gent., for "*Improvements in glass chimneys for gas burners or lamps.*" Sep. 30, 1854.

2346.—William Childs, the younger, of Brighton, co. of Sussex, manufacturer, for "*An improvement in the manufacture of pipes and tubes.*" Nov. 6, 1854.

170.—William Kilgour, of Liverpool, in the co. of Lancaster, merchant, for "*An improved manufacture of naphtha, paraffine, and paraffine oil.*" Jan. 22, 1855.

177.—George Brooks Petit and Henry Fly Smith, both of New Oxford-street, in the co. of Middlesex, gas engineers, for "*Improvements in stoves and other apparatus for generating heat from gas, and in the employment and removal of the vapours produced by its combustion.*" Jan. 23, 1855.

2719.—Warren De La Rue, of Bunhill-row, in the co. of Middlesex, manufacturer, for "*Improvements in heating products arising from the distillation of a certain tar or naphtha, to render the same suitable for dissolving or removing fatty or resinous substances.*" Dec. 23, 1854.

2488.—John Davie Morries Stirling, of Blackgrange, in the co. of Clackmannan, N.B., for "*Improvements in the manufacture of metallic tubes.*" Nov. 24, 1854.

2579.—George Aubury, of Queen-street, Edgware-road, in the co. of Middlesex, and William Richard Bridges, of Gravel-lane, in the co. of Surrey, for "*A portable apparatus for the manufacture and supply of gas.*" Dec. 8, 1854.

178.—Richard Laming, of Carlton-villas, Maida-vale, in the co. of Middlesex, for "*Improvements in obtaining and combining ammonia.*" Jan. 24, 1855.

Parliamentary Intelligence.

PUBLIC HEALTH BILL.

HOUSE OF COMMONS, Wednesday, February 21, 1855.

Sir B. Hall said he had to move that this bill be read a second time, in order that it might also be referred to a select committee. When the bill came down-stairs he would have it printed in the form in which it left the select committee, and he would take care to allow ample time for its consideration. He had before stated that the subject was one of vast interest, and of the greatest difficulty; and he would bring before the select committee all the various suggestions that he had received from local boards, from magistrates, and other local authorities. He did not want to interfere with existing interests and arrangements more than was necessary; but the interposition of Parliament would be requisite to carry out an object so useful to the country. He had not thought it necessary to give compensation to those who had created nuisances which, by the Public Health Bill, they were to be obliged to remove, and he trusted that the select committee would not listen to any proposal of this kind. (Hear.) It would be extremely desirable that the committee should set their faces against any great prolongation of evidence, because his object in bringing in these bills thus early in the session was, that the local bodies to whom would be intrusted the carrying of them out should be enabled to meet, before the summer arrived, the possible return of the pestilence which had so recently scourged the metropolis. (Hear.) He also trusted the committee would not suffer any undue delay to occur through the opposition of the gas and water companies. If any attempt were made to improve the sanitary condition of the public, and to supply them with more light and the means of securing greater cleanliness, the first persons to oppose such a proposition were usually the dealers in gas and the retailers of water. (Hear, hear.) While the select committee would see that the rights of gas and water companies were properly preserved, he trusted they would not allow these bills to be thrown over by those whose duty it was to minister to the wants of the public in respect to the supply of gas and water. (Cheers.) He was grateful to the House for enabling him to carry these bills through a second reading; and he hoped that after due discussion Parliament would pass during the present session such measures as would carry out the objects he had in view. (Cheers.)

The bill was then read a second time, and ordered to be referred to a select committee.

[The select committee on this bill and Nuisances Removal and Diseases Prevention Act Consolidation and Amendment Bills, consists of Sir B. Hall, Mr. Irton, Mr. Wilkinson, Mr. Adderley, Lord R. Grosvenor, Mr. Horsfall, Viscount Goderich, Mr. Freshfield, Mr. Austin Bruce, Sir John Hanmer, Mr. Knight, Mr. Gore Langton, Mr. James M'Gregor, Mr. Thomas Greene, and Mr. T. Egerton.]

PHŒNIX, SOUTH METROPOLITAN, LONDON, AND SURREY GAS COMPANIES' BILL.

HOUSE OF COMMONS, Friday, March 2.

On the motion that this bill be read a second time,

Mr. W. Williams said, its object was to establish a monopoly in the supply of gas to the inhabitants of the Surrey side of the Thames. In consequence of the competition between four companies there had been a considerable reduction in the price of gas in that part of London; but the companies had now agreed to divide the district among them, and so deprive the public of the benefit of their competition. He hoped the House would not sanction such an agreement, and he therefore moved that the bill be read a second time that day six months.

Mr. Pellatt said, the bill contained provisions for the protection of the public against anything like a monopoly.

Mr. Bouverie thought, that if the companies were willing to affix a reasonable limit to their charges for gas, the bill ought to be allowed to go before a committee.

Mr. Wilkinson preferred competition to these compacts, in which he had little faith.

Sir J. Duke contended that the bill contained nothing but what would be advantageous to the public.

Upon a division the numbers were—

Ayes	106
Noes	13
Majority	—93

The bill was accordingly read a second time.

AYES, 106.

Adair, Robert Alex. Shafto (Camb.)	Heyworth, Lawrence
Alcock, Thomas	Higgins, George Gore Ouseley
Anderson, Sir James	Horsfall, Thomas Berry
Baillie, Henry J. (Inverness-shire)	Hotham, Lord
Ball, John (Carlow)	Hume, W. Fitzwilliam
Bennet, Philip	Hutt, William
Bentinck, G. W. Pierrepont (Norf.)	Johnstone, Sir John (Scarborough)
Bland, Loftus H.	King, Hon. P. John Locke (Surrey)
Bouverie, Hon. Edward Pleydell	Langton, W. Gore (Somersets., W.)
Brockman, Edward Drake	Langton, Henry Gore (Bristol)
Butt, George Medd (Weymouth)	Lee, William (Maidstone)
Castlerosse, Viscount	Liddell, Hon. Geo. (Northumb. S.)
Challis, Mr. Alderman	Locke, Joseph
Child, Smith	Lockhart, Allan Elliott (Selkirk)
Cobden, Richard	Luce, Thomas
Coles, Henry Beaumont	Lytton, Sir Geo. E. Lytton Bulwer
Colvile, Charles Robert	Mackie, John
Coote, Sir Charles Henry	Mackinnon, William Alexander
Crossley, Frank	M'Gregor, James (Sandwich)
Dalrymple, Viscount	Masterman, John
Deedes, William	Milligan, Robert
Dent, John Dent	Michell, William (Bodmin)
Dering, Sir Edward	Montgomery, Sir Graham (Peebles)
Duckworth, Sir John T. B.	Mowbray, John Robert
Duncan, George (Dundee)	Mulgrave, Earl of
Duncombe, Thomas (Finsbury)	Napier, Rt. Hon. Joseph
Dunlop, Alexander Murray	Palk, Lawrence
Dunne, Colonel (Portarlington)	Parker, Robert Townley
Egerton, Edward C. (Macclesfield)	Patten, John Wilson
Ellice, Edward (St. Andrew's)	Pellatt, Apsley
Emlyn, Viscount	Phillipps, John Henry
Evelyn, William John	Pigott, Francis
Ewart, William	Pritchard, John
Fagan, William	Russell, Fr. C. Hastings (Beds)
Ferguson, Joseph (Carlisle)	Sandars, George
French, Fitzstephen	Sawle, C. Brune Graves
Freshfield, James William	Scobell, Captain
Fuller, Augustus Eliott	Scott, Hon. Francis
Gallwey, Sir William Payne	Seymour, Lord (Totnes)
Gibson, Rt. Hon. Thomas Milner	Smith, William Masters (Kent)
Glyn, George Carr	Smyth, John George (York City)
Goderich, Viscount	Sotheron, Thomas Henry Sutton
Goodman, Sir George	Stanley, Lord (King's Lynn)
Greenall, Gilbert	Strutt, Rt. Hon. Edward
Greene, Thomas (Lancaster)	Thornely, Thomas
Gregson, Samuel	Vernon, Granville E. H. (Newark)
Grenfell, Charles William	Walmsley, Sir Joshua
Hadfield, George	Whatman, James
Hamilton, J. Hans (Dublin County)	Whitbread, Samuel
Hankey, Thomson	Whitmore, Henry
Hanmer, Sir John	Wickham, Henry Wickham
Hastie, Archibald (Paisley)	Willoughby, Sir Henry
Herbert, Sir Thomas (Dartmouth)	Woodd, Basil Thos. (Knaresborough)

Tellers for the Ayes, Mr. Brotherton and Sir James Duke.

NOES, 13.

Bass, Michael Thomas	Oliveira, Benjamin
Bell, James	Pilkington, James
Brown, William (Lancas.)	Vance, John
Hayter, Rt. Hon. William G.	Walter, John
Kendall, Nicholas	Willcox, Brodie M'Ghie
Lowe, Robert	Wise, Ayshford
Macartney, George	

Tellers for the Noes, Mr. William Williams and Mr. Wilkinson.

Legal Intelligence.

INSOLVENT DEBTORS' COURT.

FRIDAY, FEB. 16, 1855.

(Before Mr. Commissioner MURPHY.)

IN THE MATTER OF EDWARD ERRINGTON.

This insolvent, described as of 302, Oxford-street (known as Errington's Eel Pie House), pastrycook, and of 40, Marylebone-lane, pastrycook, applied on his interim order under the Protection Act.

Mr. SARGOOD appeared to oppose on the part of the Imperial Gas Light and Coke Company.

Mr. ERNEST REED supported the application.

The schedule exhibited debts to £289. 13s. 7½d., and of that sum the Imperial Gas Light Company were inserted for £230. 18s. 3d., and costs, with the following statement, "I dispute this amount, having paid regularly every quarter, and consider that I only owe the last quarter's gas, due the 31st of December." The insolvent petitioned as a trader owing less than £300.

The learned counsel for the company was about to open the case, when an objection was taken by Mr. REED on the part of the insolvent, calling on his learned friend to prove the debt claimed by the Imperial Gas Light Company. Before the opposition was allowed to proceed,

Mr. SARGOOD said, perhaps his learned friend would show what right he had to raise the objection. He was aware that in prison cases such a course was permitted, but this case came before the court under the Protection statutes, and he was not aware that such an objection could be raised.

Mr. REED said the debt was disputed, and the insolvent had a right to call upon the company to prove the debt.

Mr. SARGOOD denied that the debt was disputed. It was only disputed as to the amount, and under the Protection Acts it was not necessary to prove the claim. There was, in fact, no ground to take such an objection.

Mr. Commissioner MURPHY decided that as it was only the amount that was disputed, and as the insolvent, in fact, admitted a debt, he held it to be sufficient for the present purpose.

Mr. SARGOOD proceeded to state the case on the part of the company he represented. It was a case of great importance, not only to the company, but to the public. The claim in the schedule was for £230, and instead of being affected to that amount, the company might be affected to as many thousands if the course pursued by the insolvent was adopted by others. The insolvent had signed a contract for three gas lights to be burned by meter. One of the conditions, Article 8, was as follows: "Should a meter from any cause not report correctly, payment for the gas is to be made according to the usual rate of charge for the same number and description of lights used, and the time of their burning, as would have been made to a consumer burning without meter. Such charge to commence from the time at which the meter was last found by the company's inspector to be correct." This contract was for burning three lights, and he (Mr. Sargood) should show that six, and sometimes ten, with a ring burner, were used, the ring being used to keep the pies the insolvent sold hot. On a recent inspection of the meter it was discovered that there had been a large supply of gas consumed, without registration on the meter. On this discovery, the company, under the condition he had read, was entitled to charge him for the gas consumed; and for the arrears so charged, the insolvent came to the court and pled his petition, inserting the claim.

Mr. REED interposing, said that was what the insolvent denied altogether.

Mr. SARGOOD did not know what was meant by "altogether." The company had brought an action to enforce their right, and the insolvent came to the court. That was the nature of the complaint, and he should show that the insolvent was carrying on a flourishing trade, and that there was no occasion for him to apply to the court; but since he had done so, the company had a right to make his property available.

The *insolvent* was then examined by Mr. SARGOOD: He stated that his trade was a penny pie house. He kept an eel pie house and had a large trade. He carried on business at 40, Marylebone-lane and 302, Oxford-street. It was in Marylebone-lane that he was supplied by the Imperial Gas Company. The gas he got for Oxford-street shop was from the Horseferry-road Company. He burned by meter. There was no hole in the meter that he was aware of. He rented the house in Oxford-street by the year. He had it in May 1850, and paid £104 a year. He had laid out money there, perhaps £20 or £30. He had the house in Marylebone-lane for 15 years. He never had a lease of those premises, but had been a yearly tenant. He had paid the Christmas rent of both shops. He paid that in Marylebone-lane on the 8th of January; it was £8. 15s. (Reference was made to the schedule of £52 paid for Oxford-street, and £8 15s. for Marylebone-lane as paid afterwards, but the insolvent said it was paid before.) He kept no books. It was a ready money business, no one took credit for penny pies. The receipts were about £25 a week.

Mr. SARGOOD observed that it was pretty well for penny pies—£100 a month.

In continuation of his examination the *insolvent* said, he had nothing to pay the debts he owed. He had got the two pie shops; the business was still going on. He had given up nothing for his creditors. No doubt if they had given him time he would have paid them. He had not the means of paying the company, indeed he did not consider he owed the money. If he owed them £50 he could not pay it. If he owed them £25 he could have paid it by saving it up in a month or six weeks. It would depend on the business.

Mr. SARGOOD did not suppose the war would diminish the sale of penny pies! (a laugh)

Insolvent's examination continued: It was a losing game now. The good will was nothing. It was only from six months to six months. He would not take £1 for it, nor £5. He did not wish to dispose of it. He should be very glad to take £20 for it. It might be worth £15 to him. At Marylebone-lane the rent was £35. Would not take £5 for that business. Would not like to take £10, but should be glad to take £50. He should not like to take £40, but would take £50, and £15 for the other shop.

Mr. SARGOOD said, by the insolvent's own showing, £65 could be realised for the creditors. His application was, that an assignee should be appointed, and the business of the two shops could be sold. If a man came to the court, he must give up his property. What he would propose was, that an assignee should be appointed. The company being under seal could not be appointed, but one of the officers should be nominated. The company could prove the debt, and all he would ask was a short adjournment in order to get an assignee appointed, and a customer could be found for the shops. It was a question about giving up property.

Mr. REED said he should not consent to an adjournment.

Mr. SARGOOD observed, that there was no need to have an insolvent's consent to an adjournment, in order that his property might be made available for his creditors.

Mr. REED resisted the adjournment. Let the company go into their case if they had any complaint, and not seek by such a vexatious mode to get rid of the case, to appoint an assignee. Let them show, if there was any reason, why the man should not have a day appointed for his final order.

Mr. SARGOOD said, what he proposed was a short adjournment, to get an assignee appointed. It was necessary that possession should be taken to dispose of the business before the time which would elapse by the final order, which would take three weeks or more.

Mr. REED remarked that the pie-shops would not run away.

Mr. Commissioner MURPHY said the question was, what the shops would fetch; and no person could be dealt with, unless a person was clothed with the office of assignee.

Mr. SARGOOD said they had got a person to treat with them.

Mr. Commissioner MURPHY said that the Court of Queen's Bench had decided that in simple contract a company could be without seal, and therefore any one could be appointed assignee.

Mr. REED declared that the Imperial Company were only creditors to £4. They had been paid quarter by quarter without making any claim, and now claimed a sum of £230, which the insolvent denied owing them. The insolvent went to the company, and was told if he would disclose who had defrauded them they would say nothing further about it. The insolvent had nothing to confess. About a year ago the company examined the meter and made no claim, and now they demanded a large sum. The meter was brought back, and it was stated that it went like "clock-work." This claim was sent in, beginning in 1849. If the meter did not act correctly, why did the company sent it back, and say it acted like "clock-work." He (Mr. Reed) would show that from 1849 the company had been paid, and that there was no pretence for the present claim. But it was said there was an "injury" in the meter.

Mr. SARGOOD would show that it was not an "injury," but that a hole had been designedly made, and not by accident, by which a supply of gas had been obtained.

Mr. REED proceeded: If the insolvent had been defrauding the company, they ought to have proceeded against him. But he (Mr. Reed) denied that such was the case. Here was now an opportunity for the company to prove their charge, and they did not dare to embrace it. It was rather too much for the company to come into this court and impeach his character, where there was no pretence for it. And was he, without an inquiry into the claim which was now made, to be sent out of his house; and for whom? Why, for a gas company to whom he only owed £4. He (Mr. Reed) did not hesitate to say, that it was a very hard case towards the insolvent. If there was property to be realised, the insolvent did not object to it being sold; but why was he precluded from going into the case, and to be turned out of his business?

Mr. Commissioner MURPHY asked whether he had any power to refuse the application to have an assignee appointed. The insolvent had admitted there was something due, and the amount could be afterwards ascertained. The learned commissioner asked whether he was to try the question of the claim.

Mr. SARGOOD said he had no objection to the court trying the question, and deciding what amount was due to the company.

A discussion took place on this point, and Mr. REED stated that the company had got judgment in their action by default. This assertion was denied by Mr. Cox (Cox and Willoughby), solicitor for the company, who said the defendant appeared to the action. On hearing that judgment had been obtained, Mr. Commissioner MURPHY, who had suggested that the petition had better be dismissed that the claim might be had, said, "that changes the complexion of the case."

Mr. REED suggested that there should be a proof of debts, and the insolvent would pay so much into court. Then the insolvent might carry on the business for his family.

Mr. Commissioner MURPHY thought the case had better be adjourned to Tuesday.

Mr. SARGOOD would undertake to satisfy the court of the fraud on the company.

Mr. Commissioner MURPHY was ready to hear the evidence. Perhaps it could be given in an hour.

Mr. SARGOOD had no doubt he could satisfy the court in a very short time on the subject, and proceeded to call witnesses.

George Marriott examined by Mr. SARGOOD: Was one of the inspectors of the Imperial Gas Light Company. Had been there only five years. On the 6th of October he took notice of the number of lights. There were seven in the shop, and three down stairs. There was a piece of tube used as a burner. On the 26th of December took the state of the meter, and found the consumption for the Christmas quarter for six lights, only from the 6th of October, to be 19,000 feet. The quantity indexed for

Christmas, when ten lights were used, was only 13,300 feet, and looking at the discrepancy it attracted his attention. It was customary to send a person to take off the index, and seeing such a discrepancy a person would be sent to inspect the meter. The meter was taken down and examined in his presence. He found a hole punched in the valve box. In order to discover it, they had to take it to pieces. Had to get an iron and take it off. The hole could not have been made accidentally, but might have been done, without opening the meter, by passing a pipe into the index pipe. There was a perforation. The effect was, that gas in great quantity would pass through. It was a water meter, and without water no gas would register. He (the insolvent) would get all the gas he required. It depended on the level of the water. Looking at the registration of the index, he did not believe that was the quantity of gas consumed by the burners.

Cross-examined: The meter was in court. He passed the shop frequently. Had seen double lights. He knew there were six lights and used nightly. If the cock was only turned up a little there would not be so great a consumption, but he was not a chemist, and could not give an exact opinion. He believed there were three lights down stairs. He saw a piece of tube under the pans which held the pies.

Mr. REED said they had better see the "injury" in the meter.

Mr. SARGOOD desired it not to be called an "injury." It was a perforation. The meter was produced, and the perforation described.

Examination continued: The pipe was fixed to the service-pipe. It was fixed by the gas-fitter employed by the tenant. He (witness) sent a man to take it down. The consumer put it up. This meter was fixed by his order in 1847. In 1850 and 1851 did not discover anything. He believed it was in 1852 it was removed, because there was a great discrepancy in the consumption, and he thought it was out of order. There were cases where meters got out of order. They were found to be too slow or too fast. They looked to the index. The index to the meter was generally very irregular. The company's men put it up again. (The way in which the gas was obtained was pointed out.) There was no doubt the hole was there in 1852. It could not have been made since, unless it was disconnected from the service pipe. There was a brass screw—a union. Without water they would get no gas, as the valve would close. No doubt care was taken that there should be water. They (the company) put in the water, if required, every quarter. It could be taken out. There was no difficulty in opening the pipe. He had never heard of such an accident happening as a hole in the valve. They had several inspectors to look at the meters. Could not say that they had 500 meters out of order. The inspector called once a quarter. It was his duty to see this meter. He had called for five years. In 1852 the meter was not opened. Not only was there the hole, but it was kept open to let in the gas, by pieces of paper and a stick, which could not come in with the gas. If the water was removed to a certain extent, they would get all the gas they wanted.

Mr. Commissioner MURPHY described the process. Up went the valve and the gas was procured. Up went the valve and down came the gas (laughter).

Witness stated that he took the quantity of gas consumed by the index. The charge now made commenced in 1849. He had only been five years in the company.

Mr. Commissioner MURPHY asked if there was evidence as to the opening of the meter. The claim was from the year 1849.

Mr. *Cox* (Willoughby and Cox) said it was on account of the Statute of Limitation the claim was made from 1849.

Mr. SARGOOD said he would call a witness who examined the meter in 1852.

James D. Horton, in the employ of the company, was examined: The meter was a wet meter, not an air meter. It was soldered up. If there was no water no gas would pass through. It depended on the quantity of water. While water was there the index would act, and if the water was taken out they would get gas without any movement of the index through the hole in the valve. In 1852 he tested the meter. It did then register truly. It was not out of order, but went like clock-work. He did not test it as an air meter in 1852, as he did not suspect there was any foul play.

Cross-examined: Did not in 1852 test it as an air-meter. If the water was up higher they would get no gas. His business was to prove the meters. The meter belonged to the insolvent. There were meters of different sizes. This meter was for three lights. The meter would supply more than the three. Lately he had opened many meters. Of such accidents they had found a great many. They had found the valve stuck up with paper and stick—pieces of wood. The meter was put up by his gas-fitter.

Mr. SARGOOD said, Jennings the gas-fitter was the man they wanted to get at.

Mr. REED did not, he remarked, know what his learned friend meant.

Mr. SARGOOD said they were very anxious to see Jennings, the insolvent's gas-fitter. The company did not wish to deal harshly, if they could get at him.

Mr. REED declared it was the first time they had heard of that man.

Mr. *Boulton* called: The meter now produced was one of his meters. He supplied it in 1847 to Jennings for the insolvent. The hole in the meter was not there then—it could not have been there.

Cross-examined: He did not try meters by an experimental meter. The maker never tried by water. He tried this one without water. Everything was tried before it was put up.

Mr. SARGOOD informed the court that there was a gentleman in court connected with the company who supplied the insolvent with gas in Oxford-street. They were rival gas companies; but he had been told something that had arisen, and he would call him.

Mr. *Carter*, chief inspector of the Chartered Gas Company, examined: He produced the meter used on the premises in Oxford-street, and described the stick-pipe attached to the meter, which had been taken off. There was a hole in the meter, precisely the same as in the other. It was a hole in the plate of the valve box, by which gas was got through in the same way. Mr. Carter described the nature of meters, and the manner in which the gas was obtained through the hole when a certain quantity of water was in it; and he also described how the valve acted. He remarked, that the less consumers knew about water-meters the better. (A laugh.) They (the company) expected that their inspectors would take the index and see if there was a sufficient quantity of water in the meter.

Mr. SARGOOD said the inspector of the company would tell them that he put in the water, but what they wanted to know was, who took it out.

Mr. *Carter*, in answer to Mr. REED, said that the evaporation of the water depended on the position of the meter. Of course, in a cold atmosphere it would not evaporate so soon.

Mr. Commissioner MURPHY asked Mr. Carter whether he had ever found the water frozen in meters?

Mr. *Carter* answered affirmatively.

Charles Martin, a gas-fitter, stated on the 6th of October he took four burners down, leaving six. There were ten. He did not know about the burner to keep the pies warm.

Mr. SARGOOD remarked, that he only called the witness to show the number of lights.

Cross-examined: There were three double pieces, which were made into six. One was in the parlour, and three down stairs. He went in the morning when he altered the fittings. He had orders from Mr. Errington (insolvent) to take off the burners.

Mr. *John Edgar*, gas-fitter, proved that there was a tube pipe, not a ring burner, for the pies. He knew it was there in 1850. In 1852 he put up three extra lights—three pendents made double lights. Had great experience in meters. The hole must have been wilfully done.

Mr. *C. Field*, the inspector of the Imperial Gas Company was examined as to the greatest amount paid by the insolvent and the number of feet indexed. There were 221,200 feet indexed from December, 1848, to December, 1854. The total charge was £56. 5s. 3d. Mr. Hersey, the chief inspector, had made the calculation on which the claim was made. He (Mr. Field) had got the index in court for every quarter.

Mr. *Hersey*, the chief inspector of the company, said he had made a calculation from 1849 for ten and six lights. The total was 1,035,000 feet of gas, and at the ordinary price it would be £258. 5s. The quantity consumed as indexed was only £56. 5s. 3d. It was impossible with the lights used that that could be a proper consumption. The charge without a meter on the scale for this number of lights, would be £287. 3s. 6d., but calculating the number of lights and the hours burning, the sum was £258. 5s.

Marriott, the first witness, in answer to Mr. REED, said he put in the proper quantity of water every time he took the index of the meter.

Elizabeth Smith, called by Mr. SARGOOD: Had attended at the shop in Marylebone-lane. It depended on circumstances how late the shop was open. The lights were burning all the evening. Sometimes the shop was open to twelve or one o'clock. It depended on the business—what goods they had to sell. Sometimes they burned charcoal, and sometimes gas. Witness said she did not know where Jennings was. She had never seen him.

Cross-examined: She remembered two men taking the meter away. They brought it back, and said it was as true as clock-work.

No further evidence was adduced.

Mr. SARGOOD said it was quite certain that the company had been cheated. He did not say by whom, and he now renewed the application which he had made at the outset, that there should be an adjournment for a short time to appoint an assignee. His learned friend had wished the debt to be proved, and he had proved it, he submitted, to the satisfaction of every one; and now he apprehended there would be no difficulty in the case being adjourned, to give up the business at the two shops.

Mr. REED said the insolvent was always willing to give up the premises, if they were proved to be of value to the creditors.

A discussion arose as to the quantity of gas consumed; and a remark was made, that more was consumed when fewer burners were used. On Mr. REED remarking that the inspector found water in the meter, the learned commissioner observed, that when the three months came round when he would call, no doubt water was found in the meter. (A laugh.) His Honour added, there was one Jennings!

Mr. REED said, if any person had made the hole it was Jennings.

Mr. SARGOOD: But he did not burn the gas.

Mr. REED asked why the company did not bring him here.

Mr. SARGOOD wished they could; they would prosecute him.

Mr. REED believed it had been done by somebody, and it pointed to Jennings.

Mr. Commissioner MURPHY said he had got the evidence in his mind, and he should grant an adjournment, to have the company appointed assignee. He should say nothing more. "I should advise this man (added the learned commissioner), if he wishes an easy arrangement with me, he should try and find out Jennings."

Mr. SARGOOD said that was just what they wanted.

The case was adjourned to Tuesday.

TUESDAY, FEB. 20.

The case again came before the court.

Mr. REED informed the court that the Chartered Gas Company had a claim of £39, and that would make the debts above £300.

The insolvent was asked by Mr. SARGOOD about a debt he owed to a creditor in the schedule.

Mr. SARGOOD said he found the other company had a claim of £39, and as the debts on the schedule were £289, it was idle to appoint an assignee, which made them beyond £300.

Mr. REED said, it was quite clear the case was out of the jurisdiction of the court, as the debts were above £300, and the petition must be dismissed.

Mr. SARGOOD remarked, that the claim of £39 by the other company would make them so. The petition must be dismissed.

Mr. Commissioner MURPHY ordered the petition to be dismissed.

The petition was accordingly dismissed, as the debts exceeded £300—the amount allowed to traders under the Protection Act.

Miscellaneous News.

CITY OF LONDON COMMISSION OF SEWERS.

GUILDHALL, FEB. 13, 1855.

CITY GAS COMPANY.

(Mr. Deputy PEACOCK in the chair.)

After the transaction of the ordinary business of the court,

Mr. SIMON, the medical officer, presented the following report of the results of his examination of the City Gas Company's works:—

"*February* 13, 1855.

"In reference to the works of the City Gas Company, again, at your last meeting, referred to me for examination and report, your honourable court will remember that on a former occasion (Oct. 31) I pointed out to you two principal sources of nuisance in that establishment, and reserved some doubt as to the degree in which a third might co-operate with them.

"First, namely, there was the contamination directly of the river, and indirectly of the atmosphere, by the daily discharge of fetid sulphurets from the wet lime purifiers.

"Secondly, there was the contamination of the air during the uncovered decanting of ammoniacal liquor and tar from the receiving tank of the condensers.

"And thirdly (to an extent which could hardly be measured while the two influences were in active operation), there was the general diffusion of the characteristic odour of impure coal gas, set free during the processes of drawing and charging the retorts, and otherwise in dealing with the apparatus of the establishment.

"In respect of these nuisances, I have now to report to you as follows:—

"1. The wet lime purifier is still in use, but arrangements are very nearly completed for superseding it, even more effectually than was contemplated at the date of my last report; and Mr. Thomas Taylor, the chemist, who accompanied me in my examination of the works, authorised me to stateh is opinion, that the improvements about to be adopted will be effectual for removing all cause of complaint from this part of the manufacture.

"The arrangements for discharging ammoniacal liquor and tar into tank barges are being greatly improved, by the adoption of apparatus which will prevent their more offensive effluvia from mixing with the air.

"I think it certain that these alterations, when completed, will do much to obviate the existing causes of complaint; but, pending their completion, it is impossible for me to speak with confidence of what further improvements may still remain necessary, especially as to the third evil of which I have spoken.

"It therefore seems to me that till those works are completed, and till their success has been tested by sufficient experience, the present position of the City Gas Company before the law, the position of having confessed judgment in regard to the various nuisances imputed to them, must be fatal to their acquiring any further claim on the locality they occupy, and that, except on unequivocal testimony, the repetition of those nuisances has become impossible. Your honourable court, as guardians of the public health against evils of this description, cannot do otherwise than protest against any act of legislation which may tend to perpetuate an offensive trade within the City.

"I would, therefore, hope that the City Gas Company may refrain from pressing their bill during the present session of Parliament; and that, before next session, should they then contemplate applying for any act of perpetuation within the City, they may have completed and used such measures of improvement as will justify your honourable court in raising no opposition to their bill. "JOHN SIMON."

Mr. Ross moved "that the report of the medical officer be adopted;" and, in doing so, expressed his hope that the court would take effectual measures for the purpose of carrying out the recommendation which it contained. The City Gas Company had a bill before Parliament which stood for reading on the following Friday, and it was necessary that the court should arrest its progress at its present stage. The works of this company were a nuisance—not of yesterday, nor of three years, but of at least forty years' standing. When those works were at first established in 1813, they were indicted by the inhabitants of the locality, and were compelled to relinquish their operations. The present company purchased their works, and in 1817 obtained a charter of incorporation, care being taken by Parliament to insert clauses in their bill with a view to prevent nuisances. Amongst others, power was taken for the Secretary of State to exercise a supervision with reference to the mode of carrying on the works. In 1822, the late Sir Robert Peel, in order to carry out the provisions of the company's act, appointed Sir William Congreve to investigate the fact, and ascertain whether nuisances were created by their operations. In 1823, Sir W. Congreve reported that he thought the manufacture of gas within the centre of a densely-populated city, like London, should not be carried on, and suggested that the company should have manufacturing premises somewhere in the northern suburbs. The company took advantage of certain arrangements which Sir William indicated, and by which they were enabled to raise the price of gas, but they did not erect a station in the suburbs, so that the nuisance which was then experienced continued till about three years ago, when the company were again indicted before the Lord Mayor, at the instance of the inhabitants of the neighbourhood. They then said that if the indictment was suspended, they would make arrangements for the abatement of the nuisance. These arrangements had not been effected, and latterly, complaints were made to this court, whose officer of health was directed to visit the works and report thereon. The gentlemen present would remember what the nature of Mr. Simon's recommendations were; and though it might appear rash for him (Mr. Ross) to question the value of those recommendations, supported, as they were, by the opinions of so able a chemist as Professor Taylor; yet, from the first, he could not help having and expressing doubts as to the efficacy of the suggested remedies. At the last sitting of the court, he asked the chairman of the City Gas Company whether he thought the dry lime process would be effectual, and that gentleman, a first and a second time, said that he believed it would. To show how difficult it was to determine the value of such an arrangement, he would state that he (Mr. Ross) asked the company's own engineer the same question, and his reply was, "No, I do not think that there is any chemical decomposition whatever takes place, and I think that it cannot be effectual." It appeared to be necessary to pass atmospheric air through the dry lime for the purpose of taking up the poisonous gases that were in admixure, to overcome which difficulty, the company proposed that a peroxide of iron should be used. The other gases and the naphthas, which Professor Taylor said were really the sources of complaint, they must pass through fire before they could destroy them. In point of fact it would be a very difficult process, and one which, considering the magnitude of the company's operations, would require the utmost vigilance in carrying out. Another very serious nuisance arose from the drawing and charging of the retorts, of which there were about 700, and as each of these underwent this process four times in every 24 hours, it was equal practically to 2800 retorts discharging their poisonous, sulphurous, and other gases into the air. When the committee visited the works only eight of these retorts were drawn, and yet the effect was to fill the building entirely with what the men called smoke; and which smoke consisted of carbonic acid and sulphurous acid gases, both of which were poisonous. How could this be avoided? The opinion of those best able to form a judgment, was that it could not. There were present on the deputation to the works the medical officers of the commission, Professor Taylor, Mr. Hill, an eminent gas engineer, and the company's own engineer. When the question was put to them, "Can you rectify this state of things so that there shall be no nuisance?" they all disagreed. Mr. Hill said, "To do so you must have a dome as big as St. Paul's;" another gentleman recommended a tall shaft; another a short one; and a third no shaft at all. Here was evidently a difficulty which it was hard to surmount; and he (Mr. Ross) thought that under all the circumstances of the case, the company having confessed judgment and admitted the existence of the nuisance, and having as yet failed to remove it, it was the undoubted duty of the court, as the guardians of the public health, to petition Parliament in opposition to the proposed bill. (Hear, hear.)

The CHIEF CLERK: The question of the company's bill is now before the General Purposes Committee, and they have not yet reported upon it.

Mr. ROSS: What we do must be done at once, as the bill will be read a second time on Friday night.

Mr. ABRAHAM, in seconding the motion, said he did so as one of the deputation appointed by the commission to inspect the gas-works, although there was not the full account he should like to see in the report, after what he had there noticed. He differed from the last speaker, who had said that the noxious gases could not be completely neutralised and rendered innoxious, by being passed through a layer of dry lime, and subsequently through a layer of peroxide of iron. The process was good enough, but, in consequence of the magnitude of the company's works, frequent changes of the peroxide of iron should be made, in order that they might not be too much charged to be effectual for the purposes for which they were required; and unless a competent inspector was appointed, to see that the necessary changes were made, he (Mr. Abraham) was very much afraid that that operation would be altogether neglected after a while, or only occasionally attended to. The volumes of dense filthy smoke that issued from the premises was also a sad nuisance to all persons living within range of a quarter of a mile. At the works there were between 900 and 1,000 retorts, 700 or 800 of which were always burning, and these being drawn and charged every six hours, created a most offensive and insufferable nuisance. When he said "drawn and charged," he used terms which were employed by the company, signifying the taking out of coke from the retorts and putting in fresh coals.

Deputy LOTT: You mean putting fresh coals on the fire?

Mr. ABRAHAM: Yes.

Deputy AITCHESON: They cannot be called "furnaces" because the fire is all round them.

Mr. ABRAHAM thought that in employing the term he could not be very far out. When the committee were there, only eight of these retorts or furnaces were opened, and he could assure the court that in the course of a few minutes the escape of those poisonous gases was so offensive, and so insufferable was the atmosphere of the whole building, that he was obliged to beat a retreat. Suppose that 700 of these were in operation, or something approaching to 3000 to be drawn and charged every 24 hours, what would be the effect? Why, as each operation occupied at least five minutes, there would be an equivalent to 41 chimnies constantly emitting a poisonous vapour or smoke during the whole of that period. This was a nuisance, which, without an entire reconstruction of their works, and making one great shaft in which a large fire should be always kept to consume the smoke, it would be impossible for them to meet and get rid of. It was, therefore, perfectly monstrous for this committee, as a board of health, not to try by every available means to get rid of the works altogether. He could not, however, close his remarks without saying that on the visit of the deputation from that court to the works of the company they were met in the most courteous and candid manner by the directors, and every one of the officers. There was not a single question proposed that was not answered in the most ready and gentlemanly way, and the directors gave instructions to their chief engineer to show the deputation everything they might wish to see. ("Hear" and cheers.)

Deputy LOTT said there were so many gentlemen present who were known to be favourable to the terms of the report, that all he should wish to do, was to say a few words in mitigation; because the tendency of the observations already addressed to the court was, that nothing short of doing away with the company's works altogether, would do away with the alleged nuisance. The indictment of this

company had been referred to; but let it be remembered that that was for letting off their refuse into the river, and had nothing at all to do with drawing and charging retorts. His learned friend the last speaker had told them that these charges occupied about five minutes each; he (Deputy Lott) supposed that his friend knew of other "charges" which occupied a much longer time. (A laugh.) With regard to these retorts, or as he would rather call them, stills, for they were more like stills than "furnaces," it was said that the act of drawing and charging them was a great nuisance; but after all it was only like putting fresh coals on the fire. The replenishing of the many thousands of coal fires which were burning every day in the City, must cause a much greater escape of carbonic acid gas than was evolved in *dis*charging and *re*charging these six or seven hundred retorts. If these retorts were destroyed, the very vitality of the gas works was destroyed. They could not distil coals without an alembic of this description, and it was like taking away a man's life to take away the means by which he obtained his living. If the object of the proposers of the resolution was to destroy the gas-works he could not go with them. The works had been there a long time, and the medical officer of the court said that the company were making arrangements for improving the process of manufacture, and that Mr. Thomas Taylor authorised him to state "that the improvements about to be adopted would be effectual for removing all cause of complaint from this part of the manufacture." Having, therefore, the testimony of one of the first chemists which was favourable, he thought they should not be too hard on the company. His (Deputy Lott's) principal object in rising was to protest against the use of the retorts being regarded as a nuisance—they were essentially necessary to the existence of gas-works, and to attempt to abolish them was as absurd as to attempt to put down coal fires.

Deputy AITCHISON said, though he had always supported this company, there was no denying the fact that gas works in the heart of this great metropolis were quite out of place, and ought not to be permitted. The company might construct new works in the suburbs, where they would be no nuisance, and let the ground upon which their present premises stood for warehouses and dwellings, for almost as much money as new buildings would cost them.

Deputy LOTT said they would be sending all the water-closets out of the City next, and erecting some large "extramural" place of that kind.

Deputy CHRISTIE did not believe these works were the nuisance which they were represented as being. He liked the report of the medical officer very much, and especially that part in which he said that those gentlemen (the company) were doing everything in their power to get rid of the nuisance. Now, when they saw that they were so active, and had spent so many thousands in meeting the wishes of the public, might they not safely trust them to complete what they had begun, especially as they knew that in correcting those evils they were improving their own property? One objection raised by Mr. Abrahams was, that they would not perhaps change the lime sufficiently often, and he had recommended the appointment of an inspector.

Mr. ABRAHAMS said: No, he had not; but he said—How could it be secured without an inspector?

Deputy CHRISTIE would tell the honourable commissioner that it was to the interest of the company that when the lime became impure it should be changed, for then it was no longer of use, and it would not answer their purpose to supply impure gas.

Mr. ABRAHAMS said it was not the gas which was used that passed through the lime.

Deputy LOTT said it was one of the residuums.

Mr. ABRAHAMS thought that his friend, Deputy Christie, did not understand it.

The CHAIRMAN said he ought to: he had been at it all his life.

Deputy CHRISTIE continued: What he said was, that it was to the interest of the company to change the lime sufficiently often, in order to keep their gas pure. He thought that the court should not mix itself up in the matter, and he was sure there was no necessity. They were in the hands of honourable men, and Sir B. Hall and the public were alive to the case. As to the existence of gas-works in town, and their being a nuisance, he would remind them that there were much larger works in the neighbourhood of the Houses of Parliament, and he believed they were not complained of.

Deputy HARRISON thought he had never heard a report more fairly drawn up, or more consistent with what he believed to be the duty of their medical officer, who advised that the company should be allowed a reasonable time to complete their works, which they said would remedy every nuisance. With that report he (Deputy Harrison) was quite prepared to agree. Beyond that he would not recommend the court to go. Their friend had expressed a wish that they should go to Parliament to oppose their bill. If that course was to be taken, there would have to be a notice of motion, and they could not determine that until after the reception of the report. Parliament had said that gas-works in cities were a nuisance, and they had determined that, within a certain period, they should all be removed; and that from the passing of the act no new ones should be erected there. That was the law of the land. The City Company were going to ask to be made an exception; whether they would succeed it was for Parliament to determine. He did not think it likely.

Mr. Ross having briefly replied, the adoption of the report, and that it should be printed together with Mr. Simon's first report, and a copy sent to every member of the court, was put and agreed to.

Mr. Ross then gave notice of motion for the next court to petition Parliament against the company's bill.

FEBRUARY 20, 1855.

The chief-clerk having informed the court that the second reading of the City Gas Company's bill having been postponed till after Easter, Mr. Ross withdrew his notice of motion thereon for the present.

DR. LETHEBY'S TWELFTH REPORT ON THE GAS OF THE GREAT CENTRAL COMPANY.

TO THE HON. COMMISSIONERS OF SEWERS OF THE CITY OF LONDON.

"Gentlemen,—I have the honour to present my quarterly report of the illuminating power, and chemical quality of the gas supplied by the Great Central Company to the city of London.

"During the last three months, the average illuminating power of the gas has been equal to that of 13·2 sperm candles, or 15·1 wax, each consuming 120 grains of combustible matter per hour. This result shows that the power of the gas has been about 26 per cent. greater than is required by the act of Parliament.

"The chemical quality of the gas has been remarkably good; in in fact, I have not discovered any trace of sulphuretted hydrogen during the whole quarter; and, as I had occasion to remark in my last report, it has also been very free from ammonia and its fœtid accompaniments.

"In concluding my report for the present year, it is my duty to lay before you a brief summary of my investigations into this matter during the last twelve months. All my experiments have been conducted in accordance with the act of Parliament directions, and they have been made at irregular intervals during day and night. On an average, I have made from three to four examinations a-week.

"The results are as follow:—

"From February to May, the illuminating power of the gas was equal to that of 14·6 wax candles of standard quality, or 12·8 sperm.
From May to August it was equal to .... 14·9 wax, or 13 sperm.
From August to November it was equal to 15·25 „ 13·32 „
From November to the present time it was
equal to ..... 15·1 „ 13·2 „
So that, on an average of the whole year, the illuminating power of the gas has been equal to that of 14·96 wax candles of standard quality, or 13·08 sperm. This result is satisfactory, inasmuch as it shows a degree of luminosity that is about 25 and a-half per cent. greater than is required by the act of Parliament.

"As regards the chemical quality of the Great Central gas, I have already had occasion to remark that it has during the last six months stood the test of the most sensitive agent with which we are acquainted for the recognition of sulphuretted hydrogen. During a period of several months at a time, I have caused the gas to traverse a tube containing a piece of paper charged at one end with sugar of lead, but the test has failed to show the presence of sulphuretted hydrogen. This is a result which is not often witnessed in our experiments on coal gas; indeed, I may say, that at the present time it is almost a singular fact; for so great is the difficulty in disposing of refuse lime from the gas purifier, that in several cases the alkali is overworked, and gas is sent out to the public more or less charged with sulphuretted hydrogen. This is notoriously the case in one quarter of the metropolis, where the gas is so foul that it blackens lead-paper immediately. In fact, wherever it escapes it discolours the paint with which it comes into contact, and it tarnishes the surface of polished metals; besides which the odour from it is so offensive that it produces serious disturbance in the health of those who have the misfortune to inhale it. Nor is this all, its corrosive power is so great that it rapidly destroys the metal fittings, and subjects the public to enormous inconvenience. I believe, from the extraordinary amount of impurity contained in the gas to which I am alluding, that it has not been purified at all; but that for many months past the public have been receiving it in a raw state. It is hardly necessary to say that this condition of things could not exist if it were the duty of any one to report on the subject.

"I have the honour to remain, gentlemen,
"Your obedient servant,
(Signed) "HENRY LETHEBY."
"*London Hospital College*, Feb. 10, 1855."

THE SHEFFIELD GAS AMALGAMATION.

At a Meeting of the Town Council of Sheffield, held on the 14th ult., the TOWN CLERK read the following report from the committee appointed upon this bill:—

"Your committee report that in pursuance of the authority given to them by the council, they have had three interviews with the directors of the Sheffield United Gas Company, and have succeeded in inducing them (on the conditions hereafter mentioned) to enter into an arrangement for making the following alterations in the Amalgamation Bill, viz.:—

"1. The company to send an abstract of their accounts to the Town Clerk, as well as to the Clerk of the Peace.

"2. The three nominee directors to be members of the council, and not shareholders of the company, and to have no remuneration for their services.

"3. The managing director's salary to be increased as the price of gas is decreased, according to the following scale:—When the charge for gas is at or under 3s. 6d., but more than 3s. per thousand cubic feet, £100 per annum; and when it is at or under 3s., £200 per annum, so as to make it his interest to reduce the price of gas as soon as possible.

"4. The remuneration divisible among the nine elected directors (none being payable until the price of gas is reduced to 3s. 6d.) to be as follows:
When the charge is at or under 3s. 6d., but more than 3s., £450 per annum; and when at or under 3s., £900 per annum.

"5. The auditor (whom the council are to appoint) not to be a shareholder, and to be paid by the company such salary, not exceeding 40 guineas a year, as shall be fixed by the council.

"6. The auditor to be furnished by the company at each audit with all vouchers, books, papers, and writings belonging to them, relating to the accounts, which he may require, and to have the power of calling before him and examining any of the officers of the company.

"7. The Court of Quarter Sessions not to quash any decision of the Council relative to the extension of the company's mains beyond the limits of the borough, unless it be proved that such extension will yield a clear profit of £5 per cent. per annum on the probable outlay.

"8. So much of clause 88 of the bill as relieves the company from the obligation of laying down service pipes at the request and expense of any consumer, where his premises are distant more than 50 yards from the company's mains, to be expunged.

"9. The chemist or person appointed by the council to test the illuminating power of the gas, to have authority to test its purity also. His salary (payable by the company) to be fixed by the council, but not to exceed twenty guineas a year.

"10. The penalty for supplying gas of a less illuminating power than the standard, to be equally applicable to the supply of impure gas, and to be increased to £10 instead of £5.

"11. The reserve fund of the company to be £5000 instead of £10,000.

"12. The company, within fourteen days after request, to furnish any consumer with a meter not exceeding 60 lights, under a penalty of 20s. for each subsequent day's default, on such consumer giving security for the meter, if required by the company. The nature and amount of security (which may be in a money deposit) to be settled, in case of difference, by a justice or justices of the peace.

"13. The company not to exercise the power given by the model act of cutting off the supply of gas to any consumer for non-payment of his account, unless he shall fail to pay for seven days after notice by the company of their intention to stop such supply.

"14. The council to appoint an inspector of meters, who, at the request and expense of any consumer, shall inspect his meter, and if the same be found to register inaccurately, the company to replace it with a good one within seven days after notice, under a penalty of 20s. for each subsequent day's default.

"15. Each private consumer to burn by meter if required by the company, and to have the option of providing his own meter, the same being first approved of by the company. If the inspector of meters should at any time decide that any meter provided by a customer does not register accurately, the same to be removed and another put down within the time, subject to the penalty mentioned in the last paragraph.

"16. No distress to be made for gas rents except under a warrant of a Justice of the Peace, which is not to issue without a previous summons, except in cases where the justice shall think fit to dispense with the same.

"17. The company (should the Highway Board require) to insert a clause in the bill not to lay down any pipe in or through a sewer, except to cross the same, and then not so as not to impede the flow of the sewerage.

"18. Clauses to be inserted in the bill, in the form drawn up by the Town Clerk, relative to the raising or sinking of the company's mains and pipes, at the request, from time to time, of the Highway Board, and reinstating and making good roads and pavements broken up by them, and keeping the same in repair for twelve months, being nearly similar to the clauses in that behalf contained in the existing act of the company.

"19. The clause limiting and reducing the rates payable by the company under the Sheffield Bridges and Streets Act to be expunged.

"20. The dividends of the company (during such period as their general charge for gas shall exceed 3s. 6d. per thousand feet,) not to exceed £9 per cent. per annum on the A and B shares (comprising the old company's capital of £135,000,) and 7½ per cent. on the remainder of the capital. When the general price of gas is reduced to 3s. 6d. the company to be entitled, if they think fit, to divide 10 per cent. on all the capital, according to the provisions of the model act.

"21. The maximum price of gas supplied for the public lamps not to exceed 3s. 6d. per thousand cubic feet, being 6d. less than the charge to private consumers. Also several minor alterations, principally of a verbal character, which it is unnecessary to particularise.

"Your committee are ready to admit that they have not succeeded in obtaining all the alterations and amendments in the bill they could have wished, and which, in their opinion, it would have been good policy on the part of the company to concede; but upon the whole they have effected what they consider a fair and reasonable compromise, and have no hesitation in advising the council to confirm it. It is proper to inform the council that the directors stipulated that their company should be considered as agreeing to the arrangement so far only as they could consistently with the deed of arrangement between them and the Consumers' Company, and so far only as concerned their own interests, and not the interests of the Consumers' Company or its shareholders; and that it should be contingent on the Consumers' Company assenting thereto without making any claim on the United Company, and also conditional on the various alterations being assented to by the Houses of Parliament and their officers, and that if any difficulty should arise in either House of Parliament, and the council could not get the same removed, the company, undertaking to co-operate with them, and to use their best exertions to procure the removal of the difficulty, than such part or arrangement as might give rise to such difficulty should fall to the ground, and the arrangement stand as if such point had not been comprised therein; and that it should also be contingent on the council confirming the same, and on the understanding that if they did so, the bill as amended should have their support. As some of these conditions may possibly defeat the arrangement, and render the whole nugatory, your committee have thought it prudent to present a petition against the bill so as to leave the council at full liberty to act in the matter as they may think proper, and oppose, if circumstances should render it necessary, as well the preamble as all or any of the clauses of the bill."

After some discussion, Mr. H. Vickers moved as an amendment:

"That inasmuch as the arrangement made by the committee with the United Gas Company, is reported to be contingent upon that arrangement being ratified by the Consumers' Company, and as the committee have not had or sought any interview with the Consumers' Company, resolved that the report now read be referred back to the committee, until they shall have had an interview with the Consumers' Company, and shall be in a position to present their report in an absolute form."

This resolution was lost by 16 to 9.

Mr. Ronson then moved—

"That the committee be requested to continue their services, and adopt such measures, and take such proceedings, by appearing before the committee of the House of Commons upon the petition presented on behalf of this council against the bill, or otherwise as they may think proper, for securing the insertion in the bill, of the various alterations and amendments agreed to by the United Gas Company, or in the event of the arrangement with that company falling through or being altered in any essential particulars, then for procuring the insertion of such amendments and alterations in the bill, as the committee may consider fair and reasonable, for the protection of the interests of the corporation and the public generally."

This resolution was carried unanimously.

In the meantime, it should be stated, that at a meeting of the directors of the Consumer's Company, held at Mr. Vicker's office, on 19th February, the following resolutions were passed unanimously:—

"Resolved 1st, that this board objects to any alterations being made in this bill before Parliament which may have the effect of disturbing the terms of the agreement existing between the two companies as prepared by Mr. Buller, and sanctioned by the parliamentary committee of last session, unless such alterations shall affect both companies alike. That having seen from the report of a committee of the town council that certain alterations in the bill have been conceded by the United Gas Company conditionally upon their being agreed to by this company, this board has been expecting to receive some communication from the town council committee upon the subject, but none such having been received."

"Resolved 2nd, that with respect to the proposal to diminish to seven and a-half per cent. the maximum dividend on this company's reduced shares of £4, and to fix nine per cent. as the maximum dividend in the United Gas Company's old capital, when by the agreement both capitals are to be on the same terms, this board wholly objects to such propositions and considers the same unjust."

"Resolved 3rd, that this board will consent to accept a maximum dividen of nine per cent. if the United Gas Company do the like, and are willing to concede and agree to all the other alterations referred to in the town council committee's report on the same conditions on which the United Company are reported to have agreed thereto."

"Resolved 4th, that a copy of the foregoing resolutions be sent to the town council committee and also to the United Gas Company."

PHŒNIX GAS COMPANY.

This Company held its usual Half-Yearly Meeting at the Bridge-house Hotel, on Tuesday, the 28th ult., for the purpose of declaring a dividend; submitting to the consideration and approval of the proprietors a bill now before Parliament for altering the districts within which the Phœnix, South Metropolitan, London and Surrey Consumers Gas Companies may supply gas within the Counties of Surrey and Kent; and for the re-election of retiring officers.

J. E. Johnson, Esq., chairman of the board of directors, presided.

The minutes of the previous meeting having been read and confirmed,

The Chairman said—We have now arrived at that point of business when it is the invariable practice in meetings of this kind to have the accounts and report read. On all previous occasions the report was an entirely new document, and the statement of accounts also, except that it was laid on the table some half-hour before the proceedings of the meeting commenced. On this occasion a different course has been adopted. It was suggested by several proprietors, and we felt that it would be a great improvement to have the report and statement of accounts printed and circulated among the proprietors before the meeting took place, so that they might some days before the meeting took place, calmly consider them at home, at their firesides, and make their comments on them. Having adopted that course, I hope it will meet with your approbation. (Hear, hear.) Seeing we have done so, the question now for your consideration is whether those documents be taken as read. ("Agreed, agreed.")

The following report and statement of accounts were then taken as read:—

"Your directors have much pleasure in submitting to your consideration a summary of their proceedings during the last half-year, together with the balance-sheet and the trade account of the company for the same period, duly examined, and certified by your auditors.

"The system of assigning separate districts to each of the four companies in this vicinity continues to work advantageously, and the consumers appear generally to be satisfied with the arrangement. As it is the desire of some of these companies that an act should be passed restricting the operations of each company within its own district, a bill for this purpose has been introduced into Parliament, and it will shortly be submitted for your approval, in conformity with the standing orders of the House of Lords.

"During the last half-year the large brick tank at the Kennington-lane station has been satisfactorily completed, under the careful superintendence of your engineer, at a cost considerably below the estimate. An immense telescope gasholder for the same (to contain one and a-quarter million cubic feet) is in progress, and will, no doubt, be completed and ready for work before the ensuing winter. A new twenty-four inch main, extending from the gasholder station at Kennington-lane, to that at Wellington-street, Southwark, having been laid down, is in use, and has been found eminently serviceable during the current winter. At the Vauxhall station, a new hydraulic main, two new purifiers, and new pumps have been fixed. A new cistern, lime room, and room for machinery, have been erected; and some machinery, and an additional coal store, much required, are now in hand. Not less than five miles also of large mains, released from service by the formation of districts, have been taken up and relaid in localities where the mains in use were insufficient, and where new mains would have been required, but for this seasonable supply of old mains.

"With reference to the raising of the additional capital, your directors have much pleasure in stating that the first of the two calls thereon, made at the general meeting of proprietors in August last, has been paid, and they feel every confidence the second will be advanced with equal promptitude. They much regret the necessity for this additional capital; but it is obvious that whilst the demand for gas continues to increase, as at present, the proprietors have imposed on them the obligation to provide the means for the make and distribution of such additional supply. The necessity for further floating capital is also much increased by the larger prices now paid for coal, freight, wages, and nearly everything used in the company's manufactories; which, indeed, combined with the decreasing price of coke, have considerably diminished your profits during the last half-year.

"For the last half-year a net profit of £9,846. 12s. 9d. has been realised, out of which your directors recommend that a dividend, after the rate of £4 per cent. per annum for the half-year, upon the capital of the company at Midsummer last (being £9,000), together with the income-tax on the profits (being £696. 2s. 6d.), or a total of £9,696. 2s. 6d. should be declared; leaving £150. 10s. 3d. to be added to the undivided profit in hand, which, with such addition, will amount to £10,438. 16s. 8d.

"Your directors have now only to resign into your hands the trust you have reposed in them, and they do so in entire confidence that their management of the undertaking during the past year will be conducive to its permanent welfare.

(Signed) "J. E. Johnson, Chairman."

ABSTRACT OF SIX MONTHS' TRADE ACCOUNT, ENDING CHRISTMAS, 1854.

Dr.				*Cr.*			
Coal used		£30,373	14 4	Rental for light		£46,048	12 2
Tradesmen's bills for materials supplied		5,293	11 0	Coke made for sale		16,145	1 0
Retorts used		665	13 3	Breeze do.		907	7 0
Meters—				Tar do.		819	9 9
Repairs	£654 3 10			Ammonia		102	19 2
Fixing	294 15 0						
Depreciation	641 17 0						
		1,590	15 10				
Rent, rates, and taxes		1,666	10 5				
Directors £500, auditors £21		521	0 0				
Salaries		1,882	3 1				
Wages paid		9,051	3 4				
Interest		110	19 0				
Bad debts and overcharges		934	9 1				
Depreciation on plant and leasehold property		2,086	17 0				
Net profit		9,846	12 9				
Total		£64,023	9 1	Total		£64,023	9 1

ABSTRACT OF BALANCE-SHEET AT CHRISTMAS, 1854.

Dr.				*Cr.*			
Capital of 9000 shares		£459,000	0 0	Amount of plant at Midsummer last		£417,375	14 9
Unpaid dividends		506	5 10	Less—Sale of ground at Greenwich.	£1,800 0 0		
Unpaid tradesmen's bills		11,614	0 9	Sale of mains	4,064 16 0		
Loan with interest		5,062	10 0	Depreciation of plant and leasehold property	2,086 17 0		
Balance of profit and loss—						7,951	13 0
Undivided balance	£10,288 6 5					£409,424	1 9
Half-year's profit	9,846 12 9			Add—Expended this half-year in extension of works.		15,294	16 9
		20,134	19 2			£424,718	18 6
				Amount due from proprietors for call		435	0 0
				Amount due from sundries—			
				Rental, Christmas quarter	£30,271 10 8		
				Do. arrears	2,165 16 4		
					£32,437 7 0		
				Coke	2,525 0 8		
				Breeze	495 14 4		
				Tar	572 16 4		
				Ammonia	216 14 9		
				Sundries	2,839 18 1		
						39,087	11 2
				Stock of coals	£11,555 4 4		
				Do. of coke	768 19 0		
				Do. of breeze	156 15 0		
				Do. of tar	164 17 0		
				Do. of retorts	2,876 16 9		
				Do. of meters	12,482 8 0		
						28,005	0
				Balance at treasurer's		4,071	6 0
Total		£496,317	15 9	Total		£496,317	

J. C. BAILEY, JOSEPH BOX, } Auditors.

Mr. THOMAS GIBBS, deputy-chairman, in moving the adoption of the report and balance-sheet, said: I have reason to congratulate you on the improved manner in which the business of this company is likely to be conducted in future. Formerly 20 or 30 minutes of our valuable time used to be consumed in reading the report and statement of accounts. To-day the shareholders hold those documents in their hands in a printed form, and they have had ample opportunity of considering their contents before being called upon to approve of them. (Hear, hear.) I now wish to call your attention to one or two circumstances which stand prominent in the report. The first item is that of the rental. You will observe, that the rental for the half-year amounts to the sum of £46,000, and, although I have had a long acquaintance with the affairs of this company, I am able to say that on no former occasion were we in a position to announce so large an income. Never at any former period did the rental arise to such an amount. If our proceedings for the next half-year be equally profitable, as I have no doubt they will be, then our annual rental will come up to £92,000. In order to show the progressive character of our rental, permit me to take the last four years only. And why? Because during the last four years, as you must be all well aware, we had great agitation in gas affairs, and were surrounded with opposing parties. There was no point of our district in which we had not to encounter a fierce and zealous competition for customers. Each company was using the most strenuous endeavours to obtain the customers of its rivals. I am, however, happy to say, that that competition has ceased—that, happily, we are all now so situated as to be brought into something like a position of equality, each company having a separate and distinct district assigned to it. This distribution of districts, which is only yet in its infancy, must, gradually, and year by year, have the effect of increasing your rental. The following have been the respective amounts of rental for the four years referred to:—

In 1851	the rental	amounted to	£72,900
„ 1852	„	„	75,600
„ 1853	„	„	82,038
„ 1854	„	„	90,000

Now here is a progressive increase from 72,000 (nearly 73,000) to £90,000 during the short space of four years. (Hear, hear.) In making this statement I am quite well aware of the fact that during the last year we had the benefit of an advance of 6d. per 1000 cubic feet on the price of gas, but if you take credit for that advance of price you must also recollect the trying situation in which gas companies have been placed during that period. During the last year there was an extraordinary increase in the price of coals and a great diminution in the price of coke, while on the other hand, the price of iron, labour, and freight, was largely augmented. Therefore if you take additional credit for 6d. per 1000 cubic feet on the one side, you must also charge as debits those unusually high prices for labour and materials on the other, and which high prices I trust will not continue. Coals, freight, and labour, I trust, will soon be much lower than they are at present. The next subject to which I shall allude is one referred to in a paragraph in the report relating to the new works going on. "During the last half-year the large brick tank at the Kennington-lane station has been satisfactorily completed, under the careful superintendence of your engineer, at a cost considerably below the estimate." Now I wish to bring before you the situation in which the company is placed with regard to that tank. On this, as on former occasions, we were in the habit of asking for tenders, but it was the wish of Mr. Innes that the building of the tank should be confided to him, which we agreed to, as the tenders put forward were considerably above the estimates which he furnished. I think, therefore, that it is only an act of justice to this energetic and talented engineer to state that at his particular request the superintendence of the construction of the brick tank was confided to him, and that he completed that work to the entire satisfaction of the directors, at a cost of several hundred pounds below the estimate. (Hear, hear.) I think it due to Mr. Innes to make that statement. (Hear, hear.) We have the fullest confidence in stating that the other works mentioned in the report, and which have been retarded during the frost, will be finished in summer to your satisfaction. I do not know that I need trouble you with any observations on the other items mentioned in the long paragraph of the report to which I have referred. With regard to the additional capital which the directors, at the last meeting, were authorised to raise, I am happy to say that some of the first call has been almost unanimously responded to, and the directors have no reason to doubt that the remainder of it will be paid with punctuality. I therefore beg to move that the report of the court of directors and statement of accounts be received and entered on the minutes.

Mr. APSLEY PELLATT, M.P., said he wished to make some remarks as to the bill before Parliament. He believed that as regarded the arrangements made with other companies the Phœnix company were in a state of perfect safety with or without an act of Parliament. At present the competition operated disadvantageously to all parties, both to the companies themselves and the consumers. Four sets of pipes were now to be found in the same street, and often on the same side of the way. This occasioned frequent mistakes, and uncommon loss of capital and waste of property. These circumstances were

beginning to open the eyes of members of Parliament. They now began to see that undue competition generally, if not always, ended in an agreement between the contending parties to amalgamate, and to ask Parliament to ratify the junction. He thought the present bill ought to meet the approval of Parliament; but, unfortunately, it wanted those clauses which were generally deemed necessary to protect the public with regard to price and meters, and also to ensure a good quality. He thought that unless there was something like an intermediate party, who, as trustees acting on behalf of the public, would guarantee a fair price and good quality, the bill would not pass. Then what would be the position of the company if the bill did not pass? He apprehended that the bill would be shortly introduced to the chairman of committees. A committee would have no objection to pass the bill provided the public interests were well protected. It was to the interest of the company not to seek more than a fair price.

A PROPRIETOR: Do you import your own coals, or do you buy them in the market?

The CHAIRMAN: At the spring of the year we invite all the owners of gas coal-fields in the north to favour us with tenders of what they can give us coals for, put on board ship. We will not buy bad coals. We find it more advantageous to get good coals at a little higher price. We also ask all the shipowners to send us tenders for a supply of ships to fetch those coals. We thus procure a little fleet of ships to go to those collieries. Last year, for the first time, we adopted a slight variation in our plan. Instead of having submitted to us a large number of ships as customers, the trade to the Baltic and Black Sea was so inviting that we could scarcely get any offers. We, therefore, had to look out for the means of conveyance on some other method. We then contracted with two steam companies. One was for 9s. a ton. This vessel was to fetch one description of coals, and it brought us a cargo regularly every week. We were thus furnished with a large supply. The price of the coals delivered in London was 16s. 6d., viz., 7s. 6d. for the coal, and 9s. for freight. And, in addition to this, we had to pay 1s. 6d. for river dues. During the summer months that vessel threw upon us a large quantity of coals, as the vessel in that period of the year would work more easily. We were consequently obliged to provide additional storeage. The second steamer was engaged to bring one cargo a month during the summer months, and two during the winter. We should have been glad to effect another similar contract, but were unable to do so. In addition to this, when we found that there was a good quantity of coals in the market, and we had been under an aprehension of falling short in the winter, we made large purchases. With reference to the question asked, as to the depreciation of meters, it appears as if the sum of £641. 17s. was abstracted entirely from the profits; but on further examination that would appear not to be so. It has been deemed prudent to keep the account of the meters separate from the other accounts. Every expense for repairs and depreciation is taken from that account. There is also in that account the expenses of all new meters. Formerly you did not pay for meters, but now they are part of your working concern. I will not now detain you with observations relative to the bill before Parliament. Observations have been made by Mr. Stuart, with regard to the directors giving full and ample indulgence in the collection of the calls. Our friend who has brought his cheque remarked that others may not be ready. The directors are not prepared to press for the payment of this call to day, if its postponement should add to the convenience of proprietors. If the next dividend should go against it, the directors are not prepared to press the proprietors to make payments immediately. I beg now to state, that the dividends will be payable today as they always have been. (Cheers.)

Mr. TILLEY then moved that a dividend be declared at the rate of 4 per cent. per annum, free of income-tax, for the half-year ending Dec. 31.

This was seconded by Mr. PERRY, and resolved unanimously.

The meeting was then made special, for the purpose of considering and approving a bill now before Parliament, "for altering the districts within which the Phœnix, South Metropolitan, London, and Surrey Gas Consumers' Companies may supply gas within the counties of Surrey and Kent.

The CHAIRMAN wished to inform the meeting that the ground in Newington-lane was copyhold. With reference to the bill before Parliament, they were aware of the miseries which they all suffered, of the loss to their dividend, and the depreciation of their capital, which resulted from the fierce competition in which they were for some time engaged. The directors, after very lengthened labours, succeeded in bringing that vexatious competition to an end, which, however, could not be effected without various compromises and concessions, which they were bound in honour to adhere to. Without troubling them with the details of the arrangement, he might briefly state that they executed an agreement confining their operations within certain specified limits. They also agreed that the price of gas should be uniform throughout all the districts, with the exception of what was called the country districts—the supply to which was attended with greater expense; also it was agreed that no advance in the price of their gas should be made without the consent of three out of the four companies, which advance of price should depend upon the price of materials and labour at the time of the alteration. That was the nature of the agreement which had been executed between the several companies. But during the last session one of those companies went to Parliament and asked for powers somewhat larger than were felt to be quite consistent with the agreement they had executed. This company therefore called upon them to restrict those powers to the district which the agreement had assigned to them, and to that district solely. They contended that that would be placing them at a disadvantage, inasmuch as they argued that, whilst they would be bound by the solemn clauses of an act of Parliament, this company was bound by nothing more than a simple parchment deed. The reply on the part of this company to that was, that it was a perfectly *bona fide* agreement on their part, and one which they held was morally and legally binding upon them to observe. They, however, called upon this company to pledge itself to go to Parliament for a short act, in which the limits of territory should be defined, and that promise having been given, they in good faith had proceeded with the bill, which was now before them, and to which, in compliance with the standing orders of the House, their sanction would now be asked. He might, however, take upon himself to say, that such alterations would be made in committee as would render it necessary to bring it before the proprietors on a future occasion; so that they had now nothing more to do than to accord their formal assent to the measure in its present form.

The bill was then read by the secretary, but it differed materially from a printed bill which was distributed among the shareholders present. The printed bill contained four clauses, the first of which provided for a defining of each company's district by reference to a map, which the second clause made evidence; and the third clause provided that the costs incident to the passing of the bill should be borne by the four companies in equal proportions. The fourth clause referred only to the title of the company.

The manuscript bill read by the secretary contained other matter, for a copy of which our reporter applied, but was refused by the secretary.

The bill having been read, was approved of, and it was ordered that the proper seal of the company should be affixed thereto.

Mr. GRAY: Have the directors taken any steps with regard to the nuisance bill before the House of Commons? I am of opinion, that if they have not done so they have not performed their duty. There are obnoxious clauses in that bill which interfere with us, and I hope the Phœnix Company will take immediate steps, either to get those clauses expunged, or at least materially modified. I have already suggested this to some other companies—I am chairman of one of them—but some of them had not even the courtesy to acknowledge the communication.

The CHAIRMAN: I am sorry our friend should feel so warmly about the proceedings of the directors. But I wish to apprise him that we have a bill before the House which is not very favourably regarded by a member of the House, who occupies a prominent position with reference to this nuisance bill. Now, if we were to join in direct opposition to his bill, he might regard that as the result of the disappointment we felt because he was not favourable to the measure which we are desirous of having carried. On this account, under present circumstances, we did not think it prudent to take an active part in opposing the Nuisance Removal Bill. The directors, however, are not prepared to say that they will do nothing; but we have the assurance of a member of Parliament that active opposition will be given to it. That measure will be referred to a select committee of the House of Commons, where its provisions will be fully investigated. (Hear, hear.)

Mr. JOHNSON then left the chair, and Mr. GRAY having taken it,

A vote of thanks, on the motion of Mr. JOHN BOX, seconded by Mr. PERRY, was unanimously accorded to Mr. Johnson and the board of directors.

Mr. JOHNSON, on behalf of himself and the other members of the board, briefly returned thanks, after which the secretary read the 10th clause of the company's act, providing for the election of officers, and then the previous board were unanimously re-elected.

The proceedings then closed.

A DINNER COOKED ON THE ICE.—A singular experiment in gastronomic science was tried on Tuesday last, on the ice in the centre of the river Exe, at St. Thomas. The severity of the frost having coated the surface of the river with a thick crust of ice, capable of bearing several hundred persons, who skated, and otherwise disported themselves thereon for hours, near the bridge, it occurred to our enterprising townsman, Mr. Vickary, Gas Engineer, Fore Street, that a dinner might be cooked by gas in the centre of the ice-bound stream. The suggestion, made only in the afternoon, was seconded by Mr. Hex, of the Seven Stars, and in less than an hour several of the workmen from Mr. Vickary's establishment had laid down gas pipes from the street main to the middle of the Exe, where the gas supplied a number of little jets in one of Mr. Vickary's improved cooking stoves. In this apparatus a large piece of beef and some poultry were roasted; and a leg of mutton and vegetables, a large Devonshire dumpling, and other etceteras were boiled. It were surely no wonder that so many skaters encircled the scientific cookery, while the savoury steam issued forth with as much delicacy and richness as though the spirit of a Soyer "ruled the roast." The dressing process occupied about an hour and a half, and was witnessed by a large number of persons. The dinner was afterwards served up at the Seven Stars, under the presidency of Mr. J. Hellett, when between twenty and thirty of Mr. Vickary's friends partook of a capital repast, and spent a very convivial evening. The meat was admirably roasted, and the experiment altogether was as successful as it was novel.—*Exeter and Plymouth Gazette.*

IMPORTANT TO TOLL-GATE KEEPERS.—A charge was preferred at the Bearsted Petty Sessions, on the 21st ult., against a toll-gate keeper on the Sutton road, near Maidstone, for demanding and receiving a toll for a waggon loaded with "gas lime." Mr. Samuel Bartlett, engineer to the Maidstone Gas Company, who was called on to give evidence, stated that the compost in question, of which samples were produced, was not lime; that after the lime was received at the gas-works, it became effete, and during the process of purifying the gas it imbibed sulphur, ammonia, and other impurities from the coal, which although making it a highly valuable compost for manure, yet rendered it useless for any other purpose whatever. It was a hydro-sulphate of lime and carbonate of ammonia; but the term "gas lime" was not inappropriate, as one by which it would be best understood, as it could only be procured at a gas-works. The Bench fined the gatekeeper in the mitigated penalty of 1s. and costs.

FRAUD BY A GAS-FITTER.—At the Norwich police court, on Monday, Feb. 26, *James Self*, a gas-fitter, was charged with defrauding the British Provincial Gas Company, by surreptitiously removing the meter on his premises and supplying himself by means of private pipe. Mr. Tadman, local superintendent of the company, stated that the defendant had a meter on his premises, but as the quantities returned as consumed did not appear to bear a fair proportion to the number of burners, he proceeded to the house on Thursday evening for the purpose of explaining the discrepancy. His son and another young man accompanied him, and on going into the defendant's cellar they found that the meter had been removed, and that the pipe produced had been surreptitiously attached to the pipes in the street. On being questioned about this arrangement, the defendant said his apprentices had done it all without his sanction. This statement he now repeated. Samuel Pitcher, one of the apprentices, said the meter was taken down on the Monday afternoon preceding the visit of Mr. Tadman. Mr. R. Kerrison, who appeared on the part of the gas company, said under its act of Parliament the defendant had rendered himself liable to the payment of a penalty of 40s. a-day for every day during which the meter had been removed; and the magistrates ordered him accordingly to pay a fine of £6 and the costs. The defendant has since quitted Norwich, with the intention, it is repeated, of establishing himself as a gas-fitter in London.

FATAL ACCIDENT AT THE EQUITABLE GAS-WORKS.—On the morning of the 19th ult., between nine and ten o'clock, an explosion, attended with fatal results, occurred at the works of this company, situate at Thames-bank. It appears that owing to the coldness of the main pipes, consequent on the frost, the gas had become deteriorated in quality, and to remedy this a small quantity of steam was allowed to pass into the condenser. By this means the temperature of the pipes is increased. It would appear that one of the steam-cocks was in an imperfect condition, and allowed the gas to pass from the main into another boiler which was being cleaned out. The consequence was a tremendous explosion of the boiler, caused by the introduction of a light by a man named Parsons, who was inside cleaning it out. The boiler was shattered to pieces, the windows of the engine-room blown out, and the brick-roofing of the boiler scattered in all directions. Parsons was blown through a skylight in the roof, and killed on the spot, his body being frightfully mutilated.

BREAK UP OF THE LIVERPOOL NEW GAS COMPANY.—The office effects of this short-lived company, including about 30 metres, principally of Edge's make, were a few days since sold by creditors by public auction.

OPPOSITION TO THE PUBLIC HEALTH BILL.—Several very important meetings have lately been held upon the subject of Sir B. Hall's barefaced attempts at centralisation, and some of these meetings have presented characteristics worthy of notice:—The first in order of date is the meeting of the Royal Institute of British Architects, who have petitioned against the Public Health Bill in their official capacity. Such an expression of opinion from a scientific, practical, and impartial body must have great influence with the public.—The second is the meeting of the working men of Bermondsey, who adopted a petition, subsequently signed by above 2800 persons, complaining of the vexatious persecutions of trade lately carried on by the Government.—The third is the meeting of the chemical and other manufacturers of London, held at the London Tavern on Tuesday last. It was numerously attended, and it was unanimously resolved that active measures should be taken to oppose both the Nuisances Removal Bill and the Public Health Bill.

Price Current.

CASTINGS, per Ton.

Average Weight of Cast Iron Gas Pipes, per Yard.

1¼ in.	2 in.	2½ in.	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	12 in.
16	21	28	33	51	70	89	107	126	149	177	208 lbs.

Retail Prices are 5 to 10 per cent. higher.	London.	Glasgow	Newcastle.	Wales.	Yorksh., Derbysh. and Staffrdsh
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Pig Iron, No. 1	3 10 0	2 15 0	3 10 0	3 15 0	4 10 0
1½ and 2 inches Socket Pipes	7 10 0	6 15 0	7 5 0	7 10 0	7 0 0
2½ and 3 do. do.	7 5 0	6 10 0	7 0 6	7 5 0	7 5 0
4 and 5 do. do.	7 0 0	6 5 0	6 15 0	7 0 0	7 0 0
6 inches and upwards do.	6 15 0	6 0 0	6 10 0	6 12 0	6 15 0
Retorts, 2nd fusion, hot blast	6 10 0	5 15 0	6 7 6	6 12 6	6 12 6
Do. 2nd fusion, cold blast	6 15 0	..	6 17 6	7 2 6	7 2 6
Tank Plates, ¼ thick and above	7 5 0	6 0 0	6 12 6	6 17 6	6 17 6

COALS.

NEWCASTLE.	s.	d.		SCOTCH CANNEL.			
Unscreened.	7	6	per ton.	Boghead ....at Leith	28	0	,,
Whitwell Primrose				Kirkness.....best	23	0	,,
Pelton	8	0	,,	Capeldrae, first quality	20	0	,,
Medomsley				Ditto, second quality	12	6	,,
Pelaw	8	3	,,	Lesmahago at Glasgow	25	0	,,
Burnhope				Ditto at Leith	27	6	,,
Eighton Moor				Arniston	22	0	,,
New Pelton				Wemyss ...(at the pits)	16	0	,,
Peareth	8	6	,,	Bridgeness	17	0	,,
South Pelaw				Kinneil			
Washington Hutton				Knightswood	18	0	,,
South Peareth				Lochgelly	12	6	,,
Ramsay's Cannel	18	0	,,	Lumphinan			
Cowen's Cannel	18	0	,,	Methill	11	0	,,

FIRE GOODS.

Best Bricks, 60s. per 1000, at Newcastle.
Do. Clay, 14s. per ton do.

LEAD.

Soft pig, £23 to £24 per ton.

WROUGHT IRON TUBING, subject to 25 per cent. Discount.

	2 inches.	1½ inch.	1¼ inch.	1 inch.	¾ inch.	½ inch.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Patent welded tubes, from 2 to 12 feet, per foot	1 8	1 0	0 10	0 7	0 5	0 4½
Ditto .... ,, 6 in. to 18 in., each	3 0	2 0	1 9	1 3	1 0	0 9
Connecting pieces, or long screws	3 6	2 3	2 0	1 6	1 2	0 11
Bends, springs, and elbows, wrought iron	3 9	2 3	1 9	1 0	0 10	0 8
Tees, wrought or cast	4 0	2 6	2 0	1 6	1 1	0 10
Crosses, wrought or cast	4 6	3 0	2 6	2 0	1 6	1 2
Iron cocks	17 6	9 6	7 6	4 6	3 3	2 6
Ditto, with brass plug	28 0	16 0	13 0	7 0	5 6	4 6
Diminishing sockets, caps, plugs, and nipples	1 3	0 9	0 8	0 6	0 5	0 4
Plain sockets	1 0	0 8	0 7	0 5	0 4	0 3
Flanches	1 9	1 6	1 3	1 0	0 9	
Syphons, 2 quart	15 0	14 0	13 6	13 0	12 0	
Ditto 1 quart	11 6	10 6	10 3	10 0	9 6	

FREIGHTS, per Ton.

Coastwise—Newcastle.	8s.0d	*Foreign.*	9s. 6d
Chatham & Roches.		Boulogne	
Cork	13 0	Barcelona	29 0
Dover	8 9	Bordeaux	20 0
Dublin	13 0	Cadiz	16 6
Exeter Quay	11 0	Calais	9 6
Folkestone	8 6	Constantinople	45 0
Hastings	11 0	Dieppe	12 0
Jersey	13 0	Genoa	37 0
London	8 3	Hamburg	11 0
Lowestoft & Yarmth	7 0	Havanna	14 0
Lynn	8 0	Havre	11 6
Margate	9 0	Leghorn	37 0
Portsmouth	10 6	Lisbon	16 0
Plymouth	11 0	Rotterdam	11 0
Whitstable	8 6	Stettin	12 0
Weymouth	9 6	Trieste and Venice	38 0

Advertisements.

WEST and GREGSON,
GAS METER MANUFACTURERS,
BRASSFOUNDERS, &c., UNION-STREET, OLDHAM.

Station and Experimental Meters, Gas Pressure Registers, Gauges, Experimental Gasholders, Governors, Slide Valves, &c. &c.

TO GAS COMPANIES, FITTERS, AND IRONMONGERS.

LLOYD and SUMMERFIELD,
Manufacturers of CUT and FLINT GLASS Jet Moons, Globes, Hemispheres, and Chimneys of every description; Hall Lamps, Lustres, and Chandeliers of the most modern patterns.
PARK GLASS WORKS, BIRMINGHAM.

H. JONES, Gas Meter Manufacturer,
No. 41, OLD-STREET, St. Luke's, London, begs respectfully to call the attention of Gas Companies to his latest improvements in the WET METER, by means of which water cannot be abstracted, neither can Gas by any possibility pass through the Meter without registering.

M. KELLY, Cast Iron Wharf, 31,
Bankside, London.—Retorts of superior quality, Socket and Flange Pipes, Bends, Branches, Syphons, and every description of Castings for Gas and Water Works, Gasometers, Tanks, Purifiers, Condensers, &c., erected complete, or the materials supplied.
Gas Valves and Sluice Cocks on an improved principle. Patent Gas Tubing and Connections.
A stock of the above articles kept.
The Pipes and Retorts supplied by M. K. are cast vertically, which ensures soundness and equality of thickness throughout.

BIRTLEY IRON WORKS,
CHESTER-LE-STREET, DURHAM.
Manufactory for every description of Casting and Machinery for Gas Works and Water Works.
Warehouse in London for Cast-iron Pipes and Connections of all sizes and in any quantity, Scott's Wharf, Bankside, Southwark.
Office in London, Mr. E. M. PERKINS, 67, Mark-lane

EIGHTON MOOR GAS COALS.—Parties wishing to be supplied with these first-class Gas Coals will please to apply to Mr. MATTHEW NESBIT, EIGHTON MOOR OFFICE, NEWCASTLE-UPON-TYNE. These coals are well known as among the richest in gas, and working the roundest on the River Tyne. They are extensively used by metropolitan gas works.

WHITEHOUSE and CO.,
GLOBE PATENT TUBE WORKS, WEDNESBURY,
Beg to draw the attention of Engineers and Managers of Gas Works to the superior quality of the Article they manufacture, both in respect of the iron employed, and the perfect manner in which it is welded; in proof of which they can refer to the testimonials of the most eminent Gas Engineers, and the experience of the principal of the large Gas Companies of the kingdom.
Orders promptly executed.

JOSEPH LAMB and CO.,
WALLBOTTLE COLLIERY,
NEAR NEWCASTLE-UPON-TYNE,
Manufacturers of FIRE CLAY RETORTS of all dimensions; FIRE BRICKS; and every other article in Fire Clay.
Also owners of HOLYWELL MAIN GAS COAL.

TO GAS COMPANIES.

NEW PELTON MAIN GAS COAL.
Parties wanting a supply of these first-class GAS COALS, which are extensively used in the London and other gas works, will please to apply to Mr. JAMES JOICEY, Newcastle-upon-Tyne.

PATENT SANITARY GAS SHADES.
These Shades, manufactured exclusively by RICE HARRIS, and SON, on an entirely new principle, effectually destroy the effluvia and smoke, and diminish the heat, which have hitherto made the use of gas so objectionable in dwelling-houses and offices, where cleanliness, freedom from smell, and a cool atmosphere, are of importance. They are simple and inexpensive, and may be had at the Works, in a variety of forms adapted to the style of fittings or the taste of the purchaser.
ISLINGTON GLASS AND ALKALI WORKS, BIRMINGHAM;
and 1, THREE KING-COURT, LOMBARD-STREET, LONDON.
May 27, 1854.

ANDERSON'S
DOUBLE-ACTING PISTON EXHAUSTER
is the most simple and effective machine of the kind made. It gives no appreciable oscillation or slip; works with extremely little friction; and requires no internal lubrication.
These Exhausters are in operation both in London and the Provinces, pumping from 10,000 to 70,000 cubic feet of gas per hour. They occupy very little space, and may be set either perpendicular or horizontal.
Particulars of price, &c., may be had on application to Mr. ANDERSON, at the Gas Works, Rotherhithe LONDON.

LESMAHAGO GAS COAL.

JAMES FERGUSON and CO., Lessees of the Auchinheath and Craignethan Gas Coal-fields (the most extensive and valuable in the parish of Lesmahago), respectfully intimates to the Managers of Gas Works and Consumers of Gas Coal, that he is prepared to ship the best quality of the above well-known COALS at Glasgow or Leith; and also to deliver them at the railway stations upon, or connected with, the Caledonian Railway, to any extent which may be required.

Price, free on board, or delivered at the railway stations, may be learned by addressing James Ferguson and Co., Gas Coal Works, Lesmahago; or J. H. Jones, 1, Poets'-corner, Westminster, sole Agent for London.

RICKETS' Improved Gas Ranges of every description and size may be seen in operation at the Manufactory, Agar-street, Strand, LONDON.

Lists of prices, with engravings, forwarded free on application.

GREAT EXHIBITION PRIZE MEDAL, AND CERTIFICATE FOR GAS METERS, CLASS XXII., NO. 424.

PADDON AND FORD,

PATENT GAS METER & APPARATUS WORKS, GRAY'S-INN-ROAD, LONDON,

Manufacturers of WET and DRY GAS METERS, STATION METERS, GOVERNORS, EXPERIMENTAL APPARATUS, GAS STOVES, LANTERNS, Iron Barrel and Fittings, Main Cocks, &c. &c.

Contractors for the erection or alteration of Gas Works; and every description of Apparatus required in Gas Works supplied. Competent men sent into the Country, and References given to work done.

PADDON and FORD are enabled, from the successful character of their workmanship and material, to guarantee the accuracy and durability of their meters, either WET or DRY, for a stated period.

TO GAS COMPANIES.

J. W. GRAZEBROOK,

75, OLD BROAD STREET, LONDON,

Having applications for New and Second-hand Gas Apparatus, would be obliged by those Companies having Apparatus to dispose of, to send particulars. And Companies requiring Apparatus are solicited to apply.

PIPES, RETORTS, TANKS, GASHOLDERS, &c. on Shortest Notice.

STOURBRIDGE and NEWCASTLE FIRE GOODS.

CONTRACTS TAKEN.

GEORGE and SAMUEL CUTLER,

GASHOLDER MAKERS,

No. 8, WENLOCK-ROAD, CITY-ROAD, LONDON.

Contracts for Tanks, Gasholders, Roofs, Purifiers, and all descriptions of Gas Apparatus executed on the most reasonable terms. Improved Slide Valves, Steam, and Range Boilers, and Smiths' Work, of the best materials and workmanship.

TO GAS COMPANIES.

THE BRYMBO COMPANY,

NEAR WREXHAM,

Manufacture Cold Blast Retorts and Pipes of a very superior quality, and also ship good Gas and Steam Coals at Saltney, on the River Dee, and at Birkenhead.

Brymbo Iron Works and Colliery, North Wales.

London agent, Mr. J. W. Grazebrook, 75, Old Broad-street.

WHITWELL PRIMROSE GAS COAL.—These excellent Gas Coals are wrought from the HUTTON SEAM *only*, and can be shipped either at the South Dock, SUNDERLAND; or Old Harbour, HARTLEPOOL; or Brandling Drops, SOUTH SHIELDS; on application to the WHITWELL COAL COMPANY, Sunderland.

PATENT FIRE-CLAY RETORTS.—O. BROTHERS and COMPANY, Manufacturers of O. Brothers's Patent, beg to state that these Retorts, being made in one entire operation, and in one piece, of any required shape, length, breadth, and height, are not liable to cracks and fissures, of which there is a just and general complaint; and consequently superior to, and cheaper than, any hitherto manufactured.

GREAT REDUCTION IN PRICES—30 per cent. cheaper than any other Clay Retorts manufactured.

Shape.	Sizes.	Length.	Thickness.	Price at Railway Station, Blackburn.	Price per foot run of any required length, at Blackburn.
		feet.	in.	£ s. d.	s. d.
Dee.....	12 in. by 12 in.	8	2½	2 0 0	5 0
"	14 in. by 12 in.	8	2½	2 8 0	6 0
"	16 in. by 13 in.	8	2½	2 12 0	6 6
"	18 in. by 14 in.	8	2½	3 0 0	7 6
"	19 in. by 13 in.	8	2½	3 0 0	7 6
"	20 in. by 14 in.	9	3½	3 12 0	8 0
"	24 in. by 15 in.	8	2½	3 16 0	9 6
Round.....	15 in. by 15 in.	8	2½	2 12 0	6 6
"	15 in. by 15 in.	10	2½	3 5 0	6 6
"	18 in. by 18 in.	8	2½	3 4 0	8 0
Oval Retort	18 in. by 12 in.	8	2½	3 0 0	7 6

All other sizes and shapes in proportion, to order.

References and further particulars may be obtained on application to the Patentee, Gas Works, BLACKBURN.

F. & C. OSLER,

44, OXFORD-STREET, LONDON;

Manufactory—Broad-street, Birmingham,

MANUFACTURERS OF GLASS CHANDELIERS, GLASS LUSTRES, TABLE GLASS, &c. &c.

ELEGANT CRYSTAL GLASS CHANDELIERS, FOR GAS

(Made from "REGISTERED" DESIGNS), with GLASS BRANCHES, &c.; suitable for DRAWING-ROOMS and BALL-ROOMS. The more extensive use of GAS in private dwellings has induced Messrs. OSLER to direct their particular attention to the manufacture of this class of articles—which, with a view to their general adoption, are offered at very moderate prices. Purchasers can select from a great variety of patterns, to which additions are being constantly made.

THEATRES, CONCERT, ASSEMBLY, AND BALL ROOMS LIGHTED BY ESTIMATE ON THE LOWEST TERMS.

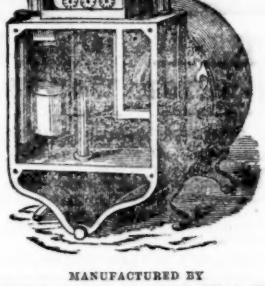
NOW READY.

VOL. III. of the JOURNAL of GAS-LIGHTING, price 32s. 6d., bound in cloth and lettered. Cloth cases for binding may be had at 2s. 6d. each. G. HEBERT, 88, Cheapside.

By Her Majesty's Royal Letters Patent.

KAY'S

PATENT EQUITABLE GAS METER



MANUFACTURED BY

WILLIAM COWAN,

BUCCLEUCH STREET, EDINBURGH.

The attention of Gas Companies is respectfully directed to the above important invention in Gas Meters.

The well-known fraud of "tilting" the Meter on one side, to enlarge the capacity of the measuring chambers, or allow the gas to pass unregistered, is entirely prevented by this invention; which simply consists in placing the Outlet on the front of the Meter, and inserting a Dip-tube, which immediately shuts off the gas the instant the Meter is thrown off its level.

Another important advantage in this arrangement of the Outlet is, that the Measuring Wheel is entirely protected from frauds, by being pierced or otherwise tampered with.

The above alteration of the Outlet does not in any way affect the present arrangement of the Fittings, this Meter being adapted to the Fittings at present in use.

SHEARS AND SONS'

PATENT DRY GAS METERS

Are supplied to Gas Companies and the Public as the best and simplest Dry Gas Meters in use. They are acknowledged to be of first-rate workmanship and accuracy of registration.—Shears and Sons continue to supply these Meters on the most favourable terms; and they also manufacture Wet Gas Meters, to which they apply their Patent Indices.

BANKSIDE, LONDON.

ADDISON POTTER,

WILLINGTON QUAY,

NEAR NEWCASTLE-UPON-TYNE,

Manufacturer of Clay Retorts, Fire Bricks, and every description of Fire Clay Goods.

TO GAS COMPANIES.

TO be Disposed of, a Gasholder, in excellent working condition, 61 feet diameter, 22 feet deep; with 6 Guide Columns and Frame, Guide Rollers in Sliding Carriages, &c. &c. The Holder is fitted with a Lute Joint at the bottom, so that it can be used for a Telescope Holder. The Holder has only been at work a few years, and is being removed to make room for a larger one. It is daily filled to 60,000 feet, and can be inspected on application at the Works.

E. GODDARD, Engineer to the Company.

Ipswich, Feb. 6, 1855.

IMPROVED

SELF-LUBRICATING GAS VALVES,

Used in nearly one hundred gas works in Great Britain and the Continent, and are esteemed for their strength, superior workmanship, non-liability to damage, never sticking, oiling themselves, always working free in tar, lime, or gas, never falling down, and their very legible index of opening of valve—advantages only possessed by these valves.

SELF-REGISTERING GAUGE COLUMN

To regulate the pressure in the Street Mains, showing at one glance the valve on the facing, area of the opening, size of pipe the gas passing will fill, and the pressure on the works and on the mains. This supersedes the necessity of the expense of a governor for small works, and should be placed on the by-pass, where a governor is used in large works. IT IS NEXT TO IMPOSSIBLE FOR THE VALVE MAN TO PUT A TOWN IN DARKNESS WITH THIS APPARATUS, and is a great ornament to the Valve-room.

IMPROVED ANNULAR CONDENSER.

Ensures perfect condensation with smallest weight of iron, and standing on the smallest space, the whole of the parts being instantly accessible. They are in use in various Gas Works, small and large, and passing 20,000 to 600,000 cubic feet per 24 hours.

DRY LIME AND OXIDE OF IRON PURIFIERS.

Perfect simplicity of action and improved Sieves, which are strong and very lasting, and the wires, when worn out, may be replaced in an hour and a half by any handy man in a gas work. The undersigned have made them, and have patterns for every size from 3 feet to 18 feet square.

GASHOLDERS, SCRUBBERS, &c.

CHARLES WALKER AND SONS,

LITTLE SUTTON-STREET, LONDON, AND MIDLAND IRON WORKS, TIPTON, STAFFORDSHIRE.

Applications for Prices, &c., to be addressed to their London Office, as above.

PATENT FLEXIBLE GAS TUBING.

JAMES LYNE HANCOCK'S

Vulcanized Indiarubber Hose Pipes and Tubing. Manufactory (and Warehouse), Goswell-mews, Goswell-road, London.

Gas Companies, Engineers, Gas Fitters, and the Trade generally, are respectfully informed this Tubing is now manufactured to any size, from ¼ inch bore and upwards, in 100-feet lengths, and perfectly cylindrical, either with or without a spiral wire inside.

VULCANIZED GLAZED FLEXIBLE TUBING, from ¼ inch up to 1 inch diameter, made in 24-feet lengths; or, covered with silk or worsted, up to 100 feet.

VULCANIZED HOSE, for FIRE ENGINES, BREWERS' USE, and for standing great pressures, (Rubber and Cloth combined), made to any length or size to fit the necessary screws, &c.

VULCANIZED INDIARUBBER AIR-TIGHT BAGS, made any size, for Gas Mains, with flexible tubes attached, and fitted with stopcocks complete.

CARTER'S PATENT SAFETY GAS VALVES.

THOMAS LAMBERT and SON,

PATENTEES AND MANUFACTURERS,

SHORT STREET, NEW CUT, BLACKFRIARS, LONDON.

The Bank of England is fitted entirely with these Valves, from the smallest branch to the largest main pipe.

The following, among numerous testimonials, will be found very satisfactory:—

"The British Gaslight Company's Office, No. 105, Broad-street, Ratcliff, London, June 10, 1846.

"Gentlemen,—In reply to your inquiry, I have to state that 'Carter's Patent Gas Valve' has been used by this company and by the fitters of the district extensively for seven years past. It was adopted to obviate the inconvenience of setting fast, so prevalent with the conical metal plug-cocks, and has been found to answer the purpose intended.

"I have recommended its use in several provincial towns with which I am professionally connected, and have not received any complaint of its having failed in any respect of performing satisfactorily all that is required of it.—I am, gentlemen, yours respectfully,

"GEDDIE PEARSE.

"Messrs. Lambert and Son, Lambeth."

TO GAS COMPANIES, GAS PROPRIETORS, AND GAS ENGINEERS.

JOHN VICKARY

begs to call the attention of the above to his improved METALLIC CASE GAS-METER, an improvement which has met with entire approbation from the various Gas Companies and Engineers to whom he has introduced it, and acknowledged to be the greatest improvement that has been made since the year 1832; at which period a metal was introduced for the construction of the Drum, Syphon, and Float, capable of resisting any impurities arising from either gas or water, which has been found to answer every expectation; as, in repair, Drums of the above date are found in perfect and good condition, when the Outer Case, Valve-box, Inlet-pipe, &c., are quite destroyed and entirely past repair.

J. V. has introduced a coating or lining of the above metal in the Outer Case, Valve-box, Inlet-pipe, &c., thereby rendering the whole as durable as the Drum, as not a particle of tin plate is exposed to the action of either water or gas; and preventing the possibility of gas passing above the water line through the front into the body of the Case to the outlet unregistered, which frequently occurs. When the Meter has been in use for any length of time it is generally found that rust or decay takes place *above* rather than under the water line, which is only discovered when they need repair. Also the Inlet-pipe and Valve-box are generally found quite decayed, which cannot happen in the above improvement.

J. V. feels confident that the above will be found a most desirable and perfect instrument, as it contains all other improvements of utility that have been introduced up to the present time.

The most strict attention is given to the workmanship as well as the registration of every Meter, to render them perfectly accurate.

Station Meters, Governors, &c., made on the shortest notice, as well as Gas Cooking Apparatus of every description, Gas Baths, &c.

Meters sent at the lowest London prices.

Carriage paid to any part of England.

WEST OF ENGLAND GAS METER AND GENERAL GAS APPARATUS MANUFACTORY, 84, FORE STREET, EXETER

NEW HOUSES OF PARLIAMENT.

DEFRIES'S Gas Stoves, Ranges, and BATHS, in action for two years at the above building. A great variety in stock upon the same principle. Gas Baths from £7, by which a warm bath may be obtained for 1½d. Gas Cooking and Heating Stoves, from £1. Defries's celebrated Dry Gas Meters —upwards of 60,000 in use.

Testimonials at the Office, 145, REGENT-STREET, or at the Manufactory, NEW-ROAD, St. Pancras, near Fitzroy-square.

HARRIS AND PEARSON,
PROPRIETORS OF
BEST CLASS-HOUSE POT AND CRUCIBLE CLAY.
MANUFACTURERS OF
FIRE BRICKS, GAS RETORTS, &C.
AMBLECOTE FIRE CLAY AND BRICK WORKS,
STOURBRIDGE.
Late in the occupation of I. and W. King.
Originally J. Pidcock, Esq.

JOSEPH BOULTON, Gas Meter Manufacturer, No. 1, COPPICE-ROW, CLERKENWELL, LONDON, begs to call the attention of Gas Companies and the public in general to his improved GAS METER, containing all the latest improvements.

J. B. warrants all Meters to be manufactured of the best materials and workmanship, the wheels, &c., being of metal. Old Meters repaired on the lowest terms.

JOSEPH CLIFF,
WORTLEY FIRE-BRICK WORKS, near LEEDS.

FIRE-CLAY RETORTS, OF ANY SIZE OR SHAPE, SUPPLIED ON SHORTEST NOTICE.

These Retorts are used extensively in the Gas Works of Leeds, Hull, Liverpool, Bradford, Rochdale, and other towns, where they have been tested side by side with those of Stourbridge, Newcastle, and other makes, and proved themselves a superior article.

Eminent Gas Engineers bear testimony that they are the BEST FINISHED AND MOST CORRECT IN FORM of any in the kingdom. Their surfaces are, by the peculiar method of their manufacture, unusually smooth, close, and FREE FROM SURFACE CRACKS; thus, in a great measure, preventing leakage and the adhesion of carbon to their interior surfaces.

To meet the great increase in demand, extensive enlargement of premises and the fitting up of more perfect apparatus have been effected; and gas engineers may rely with confidence on their orders, to any extent, being promptly and satisfactorily executed.

N.B.—FIRE BRICKS, TILES, AND OTHER FIRE GOODS, OF UNEQUALLED QUALITY.

CAST-IRON Retorts, Socket Pipes, with Syphons and all requisite Connections, Lamp Columns, Wrought Iron Tubing, Valves, Street Lamps, Sight Holes, Furnace Doors, Ash Pans, Charging and Coke Shovels, Iron Pails and Coke Barrows, Cross Bars, Fire Pots, Pumps, Iron Borings.

PURIFIERS, CONDENSERS, and SCRUBBERS erected complete, or the materials supplied; with every description of goods in use by Gas Works, in stock, on wholesale prices, at

LYNCH WHITE'S,
Old Barge Iron Wharf, Upper Ground-street,
LONDON.

JAMES OAKES and CO.,
ALFRETON IRON WORKS, DERBYSHIRE,
AND
WENLOCK IRON WHARF, CITY ROAD,
LONDON,

Beg to inform Gas and Water Companies and the public, that they keep in stock in London all the CASTINGS in general use in Gas and Water Works, including best cold-blast iron Retorts, Socket and Flange Pipes of all sizes, Bends, Branches, Syphons, &c.; also Lamp Columns of different patterns.

London Agent, Mr. ALFRED PENNY, Engineer, WENLOCK IRON WORKS, Wharf-road, CITY-ROAD, who undertakes the manufacture and erection of as-holders, purifiers, iron roofs, and every description o apparatus in use in gas works.

BRYAN DONKIN and CO.'s improved GAS VALVES have been adopted by numerous Gas Companies in England and abroad, and their advantages and great security fully proved. Very large numbers are in use. Prices from 11s. to 14s. per inch diameter.

BRYAN DONKIN and Co.,
Engineers, near Grange-road, BERMONDSEY.

GAS MANUFACTURER.

GEORGE BOWER, Vulcan Foundry, ST. NEOT'S, HUNTS, will be glad to prepare Plans, Specifications, and Tenders, for the lighting of Towns, Manufactories, and Private Houses with Gas.

References can be given to both private and public works.

His Patent Combined Apparatus, which forms the Hydraulic Main, Condenser, Scrubber, and Purifier, in one vessel, is especially adapted for works up to 100 lights.

His patent ridged, or rib-bottomed retort is applicable to works of any magnitude, the object of which is to carbonise more rapidly than by the ordinary flat-bottomed retort.

Manufacture of Gasholders, Gas Meters, Gas Cooking and Heating Stoves, and all Apparatus connected with Gas-Lighting.

N.B.—The Combined Apparatus and Retorts will be sold separately, if required.

FRASER AND SANDERSON, INVERKEITHING, manufacture and sell at moderate prices, FIRE BRICKS, GAS RETORTS, SEWERAGE PIPES, and all kinds of best Fire-clay goods. They are the ORIGINAL MAKERS of Fire-clay Retorts, which work from Two to Four years, and are unsurpassed by any others.

PATENT GAS METER MANUFACTORY,
No. 66, Snow-hill, London.

WILLIAM SMITH, by the improvements he has made in the Wet Meter, and which he has secured by her Majesty's Royal Letters Patent, the accuracy of their registry is rendered certain by the introduction of the adjusting slide and hydraulic, whereby a Perfect Water Level is readily obtained, and the Hydraulic precludes the possibility of abstracting water from the meter by increased pressure or otherwise, thus surmounting the great desideratum of the Wet Meter. In his Patent Equitable Gas Meter neatness and strength are combined, the backs and fronts of the case being stamped by powerful machinery out of thick plate iron (tinned or galvanized); and the internal construction is of the best metal, which will resist the action of any impurity in the gas.

Old Meters may readily have the adjusting slide and hydraulic applied, thereby having accurate measurement assured.

Station Meters, Governors, &c., made on the shortest notice.

HULETT AND CO., 55 AND 56, HIGH HOLBORN,
PATENTEES and MANUFACTURERS of the NATIONAL GAS METER,

Beg to inform the Proprietors of Gas Companies, and the Trade generally, that, having completed their new Gas Meter Manufactory, they are now enabled to supply, with despatch, a very superior article, and can confidently warrant the same to be equal in quality and workmanship to any Gas Meter ever made. Manufacturers of

GAS CHANDELIERS, GLASS LUSTRES, HALL LANTERNS, PILLARS, BRACKETS, PENDANTS,
AND EVERY ARTICLE CONNECTED WITH
GAS FITTINGS.
GAS COOKING APPARATUS, IMPROVED ALBERT,
AND EVERY DESCRIPTION OF
SHADOWLESS GAS BURNERS, UNION JETS, BATSWINGS, &c. &c.; CAST AND WROUGHT IRON PIPE; COPPER, TIN, BRASS, and COMPOSITION TUBING.

D. HULETT'S IMPROVED SERVICE CLEANSER,

by which Mains, Service Pipes, and the interior Fittings of a House, may be cleaned out in a few minutes. Price 60s. net.

Sole Manufacturers of Church and Mann's Improved Photometer.

Large Pattern Books, with every description of Gas Fittings and Chandeliers, &c., with complete Book of Prices, price 10s. Price Lists sent free, on receipt of envelope, addressed and enclosing two postage stamps.

London: Printed by THOMAS GREAVES BABLOW, of 3, Parliament-street, in the parish of St. Margaret, Westminster (at the office of Joseph Clayton, 10, Crane-court,